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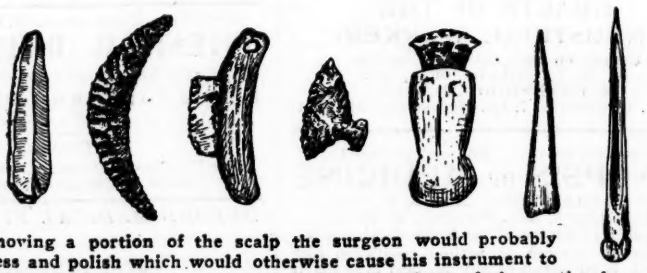

TYPICAL EXAMPLES OF THE EARLIEST KNOWN SURGICAL INSTRUMENTS.—The flint instruments here figured include those which would be employed by the pioneers of trepanning, both by sawing and by scraping. Present-day experiments have demonstrated that with these instruments the former operation can be performed in about three-quarters of an hour, while the latter takes about half the time. The thin and tender skull of an infant would be trepanned in a few minutes—and it is noteworthy that very many of the Neolithic patients were children. After removing a portion of the scalp the surgeon would probably scrape the bare skull in order to destroy the smoothness and polish which would otherwise cause his instrument to slip. Next, with a flint knife or piercer he would outline the shape of the section he intended to remove. Then he would work along this outline with knife and saw, using now the point, now the blade or edge according to the requirements at each step, until he had sawn through all but a thin layer of the skull. A slight pressure at some point in the groove would allow of the introduction of a splint of bone or wood which, used as a lever, would remove the circumscribed portion without damage to the dura mater. The operation by scraping was presently performed by progressive thinning of the skull with a knife or scraper, the operation being completed by a series of light taps upon the innermost lamina which is thus broken up. The natives of New Ireland use obsidian flakes for trepanning. A portion of a trepanned Neolithic skull showing scratches and grooves made by the flint surgical instrument is here reproduced.

CULTURE PHASE: NEOLITHIC.

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An Arris and Gale Lecture

ON

THE FUNCTION OF THE KIDNEYS IN ENLARGEMENT OF THE PROSTATE GLAND.

DELIVERED BEFORE THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

BY

J. F. DOBSON, M.S., F.R.C.S.,

HONORARY SURGEON TO THE LEEDS GENERAL INFIRMARY, ETC.

THE operation of prostatectomy for simple enlargement of the prostate has attained an established position in the treatment of this disease. It is attended in many cases with the most satisfactory results, but a study of the published statistics of the operation, of the results painted as they are in such rosy colours, might lead one to suppose that any man suffering from this affection could undoubtedly be cured, and cured completely, by an operation entailing little risk, a minimum of discomfort, and no troublesome sequelae.

But this is not a very accurate presentation of the facts. It is true that Sir Peter Freyer has been able to publish results showing, in the latest series of cases, a mortality of 3 per cent. In a very interesting and comprehensive review on the subject of prostatectomy which appeared recently it is stated that experience leads to the conclusion that to reach the success attained by Freyer there must be the most rigid selection of cases. Outside of the select cases complications arise which induce a mortality of 15 to 25 per cent. Surgeons of experience in this operation will agree with these statements. It is clear that to obtain a low mortality—not altogether the most desirable object of the surgeon—the possible benefits of the operation must be withheld from a considerable number of sufferers. Particularly favourable results can be obtained in patients who are almost entirely above the hospital class; such patients, usually educated men, seek advice—and good advice—at an earlier stage of the disease; they have more courage to face the problem which presents itself, and they are therefore operated upon at an earlier stage than the average hospital patient. The bladder is less frequently infected, and they do not so commonly suffer from impaired renal function.

PROPORTION OF OPERABLE CASES.

It is extremely difficult to ascertain what proportion of sufferers from enlarged prostate requiring relief are submitted to prostatectomy; no figures on this point are available. Steiner says he operated on 70 out of 180 cases he had seen. Inquiry from a good many surgeons reveals some discrepancies. Most agree that a considerable proportion are unsuited for prostatectomy. I am not able to give my actual figures, but I think I operate upon about 75 per cent. of my cases. I find the percentage of cases on which I do the operation is rising fairly rapidly.

This low proportion of operable cases is mostly among hospital patients, and it is particularly among these patients that the operation is so necessary. If catheter life is resorted to in the case of a wealthy, leisured, and educated man, the utmost precautions and the greatest care are necessary if an early disaster from infection is to be avoided. In the case of an elderly working man it is practically impossible to carry out regular catheterization with success. Only too frequently, however, when he presents himself for treatment he is found to be suffering from some complication which either precludes the operation or renders it extremely dangerous.

COMPLICATIONS OF PROSTATIC ENLARGEMENT.

The complications which deny these patients the possible benefits of prostatectomy may be considered under the following four headings:

1. *Cases of Impaired Renal Function due to Back Pressure without Infection of the Urinary Tract.*

These cases (Cases 1 and 2) are not at all uncommon in educated men, but are rarely met with in the hospital class. The patients present themselves with a markedly distended bladder, perhaps with complete retention, or merely complaining of increased frequency. They are not infrequently anaemic, the tongue is dry, and they complain of headache, thirst, and sometimes vomiting. The urine is of low specific gravity, the urea percentage is low, and there is generally some albumin present without pus or organisms. Culture is sterile. If submitted to prostatectomy they almost invariably die from uraemia. Thomson Walker says: "There is no more dangerous class of case in urinary surgery." Examination of the organs in such cases reveals dilated and tortuous ureters with patent orifices, dilated pelvis and calyces in the kidneys, and thinning and fibrosis of the kidney tissue. Such cases are rarely met with among hospital patients because they have usually been catheterized and infected.

These cases are very deceptive. The slowly progressing enlargement of the prostate causing back pressure and impaired renal function may cause very little in the way of local symptoms, possibly only some frequency without pain, haemorrhage, or retention. The careful surgeon in such a case is apt to decline prostatectomy. Catheter life is started, and sooner or later—usually sooner than later—infection occurs and the patient dies rapidly.

2. *Cases of Infection of the Urinary Tract.*

The infection may be limited to the bladder or may have extended upwards to the kidneys, producing a greater or lesser degree of pyelonephritis. Minet describes renal infections in these cases under three headings:

1. Pyelonephritis of moderate degree. Cases characterized by a moderate degree of chronic pyuria, without fever, without signs of toxaemia, and without notable alterations in the chemical composition of the urine. In these cases there is no impairment of renal function, and they are suitable for prostatectomy.
2. Pyelonephritis of moderate degree with exacerbations, chronic pyuria with recurring attacks of fever, toxaemia, haematuria, etc.

3. *Infection with Definite Impairment of Renal Function.*

Minet's last class comes under this head. In these cases the impaired renal function is the result of a series of exacerbations over a more or less lengthy period. In these cases the kidneys are both distended and infected—distended on account of ureteral obstruction by distension, lengthening, and kinking of the ureter, or by swelling of the mucosa and thickening of its walls. This condition of septic renal retention is evidenced clinically by fever, renal pain, and enlargement and tenderness of the kidneys, and is usually fatal.

4. *General Organic Disease.*

I do not propose to consider here the difficulties caused by serious organic disease in other parts of the body.

The principal reason for the rejection of cases and for the failure of the operation is impairment of renal function associated or not with infection. The degree of impairment of renal function may be estimated by various methods, first by clinical signs alone. There can be no doubt that the very astute clinician can, without any elaborate investigation, form a very good opinion as to the suitability of a given case of enlarged prostate for operative treatment. The appearance of the patient, the presence or absence of anaemia, the state of his tongue and appetite, consideration of the temperature, sleep, pain, etc., are all valuable guides. Examination of the urine is very important: the specific gravity, quantity, urea percentage, presence of albumin, etc., must be taken into consideration. But it is clear that the clinical state of the patient is not a sufficiently accurate guide to the functional capacity of his kidneys. Some form of more direct investigation is required.

The tests elaborated and used during the last twenty years for the estimation of the functional capacity of the kidneys are very numerous. I propose to confine myself to the consideration of those tests which have been used in cases of enlarged prostate.

The Indigo-Carmine Test.—20 c.cm. of a 0.4 per cent. solution of indigo-carmine is injected intramuscularly. The dye should appear in the urine in five to ten minutes and the greatest concentration should be reached in about thirty to forty minutes. Thomas relies largely on this test. He compares the quantity of indigo-carmine excreted during the first hour with that excreted during the third hour. He regards this index of the greatest value. I use the indigo-carmine as a routine in

ordinary cystoscopic work and have also employed it extensively in cases of enlarged prostate, but it has been abandoned for reasons I will give later.

The Phenol-sulphone-phthalein Test (Rowntree and Geraghty).—6 mg. of the dye in solution of 1 c.cm. is injected intramuscularly and the urine collected by catheter. The urine is alkalized by the addition of a solution of sodium hydrate (25 per cent.) and the time of appearance of a pink tinge is noted. This should appear in about five minutes; 50 per cent. of the dye injected should be excreted in the first hour.

Young relies largely on this test. He says if the time of appearance of the dye is over fifteen minutes, and the amount excreted during the first hour is less than 30 per cent., preliminary treatment is necessary before prostatectomy can be safely done. Bentley Squire and Victor C. Myers believe the test to be reliable when proper precautions are taken to secure an accurate collection of urine by the catheter, but in another paper Bentley Squire says occasionally a patient who has responded in an adequate degree to the phenol-red test, and would appear to be a suitable case for prostatectomy, has, after operation, developed fatal acute suppression of urine.

This test is easy to carry out with a Dubosecq colorimeter, and can be done in the ward. At one time I used it extensively, and thought that it would solve many difficulties. But there are very many fallacies. In the first place the presence of even a small quantity of blood renders the test useless. The presence of pus in any but minute quantities is a great handicap. When the urine is high-coloured it is not infrequently extremely difficult to match the urine under test with the standard solution. Another great drawback occurs in cases where a preliminary cystotomy has been done. It is here almost impossible to be absolutely certain of collecting every drop of urine secreted during the first hour. It is easy enough in those cases where a small catheter has been sutured into the bladder, but when a drain of any size has been used on account of a severe cystitis or haemorrhage then the test is unreliable. This difficulty in collecting all the urine after preliminary cystotomy has led us to abandon the indigo-carmine test and the phenol-sulphone-phthalein test.

Ambard's Constant.—This method of comparing the quantity of urea in the urine with the quantity in the blood stream we owe to Ambard.

An extremely complicated method, possessing the drawback, from our point of view, of requiring the accurate collection of all the urine during one hour. This renders this test unapplicable to many cases in which a preliminary cystotomy has been done. We have not employed it.

Urea Concentration in the Blood.

This is the method of estimating renal function upon which we are now placing most reliance. I have had the good fortune to be associated in this work with Dr. William MacAdam, Lecturer in Pathology in the University of Leeds. Dr. MacAdam has carried out the blood examinations in all my cases, and I am deeply indebted to him. He will publish at a later date, and in full, the results of his investigations on the subject of impaired renal function in enlargement of the prostate and other affections of the urinary tract. I hope to be able to prove to you that this method of investigation forms a reliable guide to the condition of the kidneys, and enables the surgeon to select with success those cases suitable for prostatectomy.

The normal concentration of urea nitrogen in the blood varies in individuals. Hammett states that the urea nitrogen varies from 9.7 to 25.1 mg. per 100 c.cm., and that the average is 17.1 mg. per 100 c.cm. Dr. MacAdam, as a result of very numerous tests, regards the upper limit of variability in the normal individual as between 15 and 25 mg. per 100 c.cm.

Observations on the urea concentration in the blood in cases of enlargement of the prostate have been made by various observers.

Bentley Squire and Myers regard the normal blood content of urea nitrogen as 12.15 mg. per 100 c.cm. They think that figures over 20 mg. per 100 c.cm. in patients on the restricted protein diet of hospital suggest impaired renal function. They estimated the blood urea nitrogen in 53 cases of enlargement of the prostate. Of these 53 cases 39 recovered and 14 died. In the 39 cases of recovery the blood urea nitrogen averaged 19.6 mg. per 100 c.cm. In the 14 fatal cases the average blood urea nitrogen was 24.4 mg. per 100 c.cm. In 3 cases in which operation was contraindicated, all of which died—2 from uraemia and 1 from diabetic coma—the examination of the blood revealed:

Case 1	...	...	...	Blood urea,	24 mg.	per 100 c.cm.
Case 2	...	...	...	,,	33	,, ,,
Case 3 (first observation)			...	,,	87	,, ,,
(second observation)			...	,,	104	,, ,,

They conclude that the blood urea test is the most valuable pre-operative prognostic test; that cases showing urea nitrogen figures under 20 mg. per 100 c.cm. are good operative risks so far as the kidneys are concerned. When the figures are between 20 and 30, particularly between 25 and 30, the patient should receive a preliminary treatment. When the urea nitrogen figures are over 30 the operative prognosis is bad.

As part of an elaborate and most instructive investigation on the value of Ambard's constant, Kospiro Nakagawa estimated the blood urea in 12 cases of enlarged prostate in which prostatectomy was performed by Mr. Thomson Walker. The average of 11 cases successfully operated upon was 33.2, while the figure in the one fatal case was 54.2.

Two-stage Operation: Preliminary Cystotomy.

We have used this test principally in those cases where a preliminary cystotomy has been done after consideration of the figures. I am able to give the extreme value of the two-stage operation in cases where there is any impairment of renal function. I have performed the two-stage operation in these cases for many years, particularly in hospital, and I am able to give the blood urea figures in those cases in which it was done during the last year.

The advantages of the two-stage operation are many. The preliminary cystotomy is done under local anaesthesia and the time of the second operation under general anaesthesia is much shortened. During the first stage any calculi can be removed; cystitis can be controlled by drainage and treatment of the bladder; the back pressure on the kidneys is relieved, and the patient is able to get sleep. The general condition of the poisoned and uraemic patient usually changes very materially after cystotomy. The appetite improves, the tongue cleans, thirst and headache disappear, and the patient is in an infinitely better position to stand the removal of the prostate.

According to Lilienthal the relief to renal back pressure is indicated by the fact that the ureter orifices, found during the preliminary cystotomy to be patent and dilated, after a period of drainage may be found contracted. I have noticed this in several cases. There can be no doubt that the risk of a post-operative ascending renal infection is much lessened when contraction of the ureter orifices occurs.

The advantages of the two-stage operation in suitable cases have been pointed out by numerous writers, notably Kummel, Wiener, Carlier, Lilienthal, etc., and it has been widely practised. Wiener advocates the two-stage operation as a routine operation in all cases of enlargement of the prostate. He considers it is impossible to determine beforehand which cases are good operative risks, and the possible benefits of a period of drainage of the bladder should be extended to every patient.

There are some dangers in preliminary cystotomy. Peacock has found a rapid fall in blood pressure with a period of diminished reaction of urine and the appearance of albumin and casts in the urine, and Pilcher has also drawn attention to the period of renal depression. But these changes may occur after any method of emptying the bladder, particularly if it is completely emptied at one stage. There are other disadvantages. Freyer is opposed to the method for the reason, as he says, that it delays the radical operation and renders it more difficult to enucleate the tumour owing to the induration of the suprapubic wound. These are certainly disadvantages, and it is not necessary to adopt this two-stage operation in the majority of patients, particularly those above the hospital class. But there can be no doubt that many more cases can be safely operated upon by the two-stage method, and that in cases with marked impairment of renal function and with gross infection of the bladder and kidneys, it is infinitely to be preferred to the operation in one stage.

The figures presented in the following cases are the result of Dr. MacAdam's investigations. In every case duplicate observations have been made and in most cases the observer was entirely ignorant of the clinical state of the patient at the time of the first examination. In almost all these cases McLean's urea elimination test was also carried out. Dr. MacAdam will give his findings at a later date, but as this test requires the collection of all the urine passed during a given period it, like the indigo-

carmine and phenol-sulphone-phthalein tests, is not suitable for those cases where a preliminary cystotomy has been done.

Uninfected Cases.

Case 1.—G. H. S., aged 59. This patient was an example of the class of case referred to where the symptoms are very slight, the patient gradually progressing towards a state of uraemia almost without knowledge of serious bladder difficulty. When first seen he was extremely ill, with a distended bladder, vomiting, a dry tongue, headache, and thirst. He was obviously on the borderline of uraemia.

February 10th, 1920.—Suprapubic cystotomy under local anaesthetic. Urine sterile.
February 12th.—Blood urea nitrogen, 39 mg. per 100 c.cm.
February 22nd.—Blood urea nitrogen, 19.6 mg. per 100 c.cm.
February 24th.—Prostatectomy.

Coincident with the fall in the blood urea his general condition improved markedly and prostatectomy was successfully performed on February 24th, 1920. He remains well and has no symptoms of impaired renal function.

Case 2.—W. A., aged 56. This patient was in a very similar condition to the first case. He had been troubled with irritability for some time and the bladder had gradually become greatly distended. He was in great pain, vomiting, dry tongue, headache, etc. Urine free from pus cells.

February 3rd, 1920.—Blood urea, 137 mg. per 100 c.cm. Cystotomy under local anaesthesia.
February 12th.—Blood urea, 60 mg. per 100 c.cm.
February 24th.—Blood urea, 30 mg. per 100 c.cm.
March 2nd.—Blood urea, 28 mg. per 100 c.cm.
March 4th.—Prostatectomy.
March 19th.—Blood urea, 16.8 mg. per 100 c.cm.

In this case there was a remarkable diminution in the blood urea after cystotomy coincident with as remarkable a change in his general condition. Prostatectomy was successfully performed. It may be noted that the blood urea diminished after the prostate was removed.

Case 3.—W. S., aged 65, was suffering from advanced organic disease of the heart, with oedema, shortness of breath, etc. The bladder was distended, he was in great pain, vomiting, dry tongue, etc. The urine was free from pus. Catheterization was very painful and difficult. A tied-in catheter was constantly coming out and suprapubic drainage was eventually established.

September 17th, 1920.—Blood urea, 72 mg. per 100 c.cm.
September 23rd.—Cystotomy.
October 7th.—Blood urea, 22.4 mg. per 100 c.cm.

In this case the patient was immensely relieved by cystotomy, and a marked fall in blood urea concentration occurred. Prostatectomy was contraindicated by the general condition of the patient. A permanent suprapubic drainage apparatus was fitted.

No other uninfected cases during last year were submitted to the two-stage operation.

Infected Cases.

Case 4.—J. G., aged 79, was admitted with retention. Temperature 100°, pulse rising to 130, great pain; bladder very badly infected.

March 24th, 1920.—Urine contained pus and blood. Urea, 1 per cent. Blood urea, 72 mg. per 100 c.cm.
March 25th.—Cystotomy.
March 31st.—Blood urea, 14 mg. per 100 c.cm.
April 6th.—Blood urea, 11.2 mg. per 100 c.cm.
April 26th.—Prostatectomy.
June 9th.—Blood urea, 14 mg. per 100 c.cm.

This patient made a complete but somewhat slow recovery, complete cicatrization of the wound being delayed.

Case 5.—W. G., aged 69, had suffered for some years from frequency of micturition. Retention had occurred. Catheterization was very difficult, and the bladder had been tapped. Urine had leaked through the puncture. Urine contained a quantity of pus and was offensive.

June 30th, 1920.—Blood urea, 35.5 mg. per 100 c.cm. Cystotomy.
July 9th.—Blood urea, 28.0 mg. per 100 c.cm.
July 19th.—Blood urea, 25.1 mg. per 100 c.cm.
July 23rd.—Prostatectomy.

The patient made a perfectly satisfactory recovery.

Case 6.—S. C., aged 57, had some urinary difficulty for more than a year. Ten months ago he catheterized himself, and ever since the urine has been turbid and contained a deposit. He has agonizing pain on micturition. Residual urine, 6 oz.; urine containing blood and pus, and is offensive. Temperature, 102°; dry tongue; tenderness over bladder; kidneys tender.

July 21st, 1920.—Blood urea, 32.8 mg. per 100 c.cm.
July 22nd.—Cystotomy.
July 24th.—Blood urea, 28 mg. per 100 c.cm.
August 26th.—Prostatectomy.

The patient made a satisfactory recovery.

Case 7.—H. W., aged 56, admitted with cystitis, distended bladder, dry tongue, no appetite, great frequency. Urine contained a quantity of pus. Temperature 100°.

April 29th, 1920.—Blood urea, 45 mg. per 100 c.cm. Cystotomy.
May 13th.—Blood urea, 27.4 mg. per 100 c.cm.
May 17th.—Prostatectomy.

The patient made a rapid and satisfactory recovery.

The following is an example of a grossly infected case without impaired renal function.

Case 8.—G. S. B., aged 68, had suffered from serious symptoms for a long time. Had been catheterized. Bladder badly infected. Urine contained large quantity of pus and was offensive. Patient in great pain but tongue not dry.

April 18th, 1920.—Blood urea, 15.8 mg. per 100 c.cm. Cystotomy.
April 29th.—Prostatectomy.

Rapid recovery.

The next case is an example of the result of prostatectomy in a patient where the blood urea remained high after cystotomy.

Case 9.—J. B., aged 74, had had enlarged prostate for thirteen years. Catheterized himself for ten years. Severe pain and haematuria after making a false passage. Bladder distended. Complete retention. Patient very ill, dry tongue, etc. Temperature 100°.

May 2nd, 1920.—Cystotomy.
May 3rd.—Blood urea, 50.4 mg. per 100 c.cm.
May 17th.—Blood urea, 42.0 mg. per 100 c.cm.
May 25th.—Blood urea, 35.0 mg. per 100 c.cm.

Owing to continued haemorrhage from the prostate, prostatectomy was performed May 31st, 1920, although the blood urea figures remained high. The patient died within twenty-four hours.

Post-mortem examination revealed prostatic tissue still remaining; the kidneys were markedly granular, with narrowing of the cortex.

The next two cases are examples of badly infected patients with impaired renal function; prostatectomy not performed.

Case 10.—J. A., aged 74, had symptoms for about a year. Had been catheterized frequently. Bladder grossly infected. Catheterization very difficult and painful. Patient rapidly getting worse; vomiting; dry tongue, etc.

May 24th, 1920.—Blood urea, 43.0 mg. per 100 c.cm. Cystotomy.
June 7th.—Blood urea, 33.6 mg. per 100 c.cm.

The patient's general condition was much improved but the blood urea figures remained high; prostatectomy discussed but rejected by patient and relatives. Permanent suprapubic apparatus fitted.

Case 11.—F. W. D., aged 60. Admitted with retention. Urine 1005, alkaline, large quantity of blood.

May 31st, 1920.—Blood urea: Finding faulty owing to technical error. Cystotomy.
June 7th.—Blood urea, 179 mg. per 100 c.cm.

The patient died uraemic on June 8th, 1920.

Post-mortem examination revealed thickened capsule of kidneys, stripping with difficulty; cortex narrowed and not well differentiated. Renal pelvis on both sides showed marked thickening with considerable evidence of recent inflammation of the mucosa.

Malignant Disease of Prostate.

Case 12.—J. P., aged 63. History of frequency and some haemorrhage. Quantity of pus in urine.

July 12th, 1920.—Blood urea, 42 mg. per 100 c.cm.
July 15th.—Cystotomy.
July 21st.—Blood urea, 38.0 mg. per 100 c.cm.
July 26th.—Blood urea, 28.0 mg. per 100 c.cm.
August 26th.—Prostatectomy.

Very hard prostate removed with difficulty. Microscopically an adeno-carcinoma. The growth rapidly recurred in the bed of the prostate, the suprapubic fistula failed to close, and a permanent suprapubic apparatus was fitted.

Case 13.—R. W., aged 69. Previous history lacking.

July 12th, 1920.—Blood urea, 61.6 mg. per 100 c.cm. Cystotomy. Obvious malignant prostate. Nodules in trigone.
July 23rd.—Blood urea, 50.4 mg. per 100 c.cm.

Permanent suprapubic drainage apparatus fitted.

Case 14.—E. J. B., aged 69. Twelve months' history. Admitted with retention. Patient very ill, tongue dry, occasional vomiting.

July 14th, 1920.—Blood urea, 48 mg. per 100 c.cm.
July 15th.—Cystotomy.
July 20th.—Blood urea, 41.4 mg. per 100 c.cm.
August 24th.—Blood urea, 30 mg. per 100 c.cm.

The patient died on August 26th, 1920.

Post-mortem examination revealed a malignant prostate with involvement of the bladder wall. Both kidneys showed extreme pyelonephritis, with foci of necrosis scattered throughout the medulla and cortex.

Case 15.—W. H., aged 70. Hard, fixed and nodular prostate. Urine loaded with pus.

April 8th, 1920.—Blood urea, 46 mg. per 100 c.cm.
April 17th.—Blood urea, 56 mg. per 100 c.cm.

Retention relieved by catheter. The patient left hospital April 30th, 1920.

Cases 16, 17, 18.—Blood urea estimations were made in three other cases of enlarged prostate. The figures were:

W. E., aged 59. Blood urea, 12 mg. per 100 c.cm.
H. H., aged 63. Blood urea, 15.4 mg. per 100 c.cm.
J. L. H., aged 67. Blood urea, 16.8 mg. per 100 c.cm.

Prostatectomy was successfully performed in these cases.

Commentary on the Cases.

The following conclusions can be drawn from the examination of the figures in these cases:

1. The blood urea concentration corresponds very closely with the clinical symptoms. In those cases (Nos. 1 and 2) where the patient was becoming uraemic the blood urea concentration was high.
2. Impaired renal function occurs in patients who have no infection of the urinary tract, the renal impairment being due entirely to back pressure. (Cases 1 and 2.)
3. Severe infection of the urinary tract (? confined to bladder) may be present without impaired renal function. (Case 8.)
4. The majority of cases of serious infection had impaired renal function.
5. A decided fall in blood urea concentration occurs after cystotomy, in the majority of cases the blood urea figures falling practically to normal.
6. The seriousness of those cases in which the blood urea figures remained high after cystotomy. (Cases 9, 11, and 14.)

I think it will be agreed that many of these cases were saved by preliminary cystotomy; of course, this was combined with general treatment on the ordinary lines—free administration of fluids, purgation, light diet, urinary antiseptics, diuretics, etc. In some cases cardiac and pulmonary complications required attention. In this series there was no case of glycosuria or tabes or other nervous disease. The cystotomy was done under local anaesthesia, and the bladder emptied slowly. In some cases of extreme distension a catheter has been passed and the bladder gradually emptied during twenty-four hours, the cystotomy being then performed. This avoids the risk of reflex suppression, haemorrhage and shock which may follow rapid and complete emptying of a very distended bladder either by the catheter or by suprapubic cystotomy. In one or two cases painful spasm of the bladder has occurred when it has been evacuated too quickly through the suprapubic wound.

Certain surgeons, notably Young, believe that suprapubic drainage is not often required and that regular catheterization is generally sufficient in infected cases and cases with impaired renal function. On the other hand, it is well known that the patient with impairment of renal function is apt to succumb rapidly after catheterization. I believe that when the blood urea figures are high cystotomy is an essential, and much to be preferred to regular catheterization or to the use of the tied-in catheter. In badly infected cases there is no comparison in the efficiency of the two methods of draining the bladder: cystotomy with antiseptic instillation is infinitely preferable to catheterization. An objection to the performance of a preliminary cystotomy is that one may find a high blood urea figure persisting after the cystotomy and contra-indicating prostatectomy. The patient must then be fitted with a permanent suprapubic drainage apparatus. It is conceivable that he might have preferred to end his days getting such relief as is possible from the catheter. This point must be explained to the intelligent patient.

Infection of the Urinary Tract.

This may be present with or without any impaired renal function. We have at present no means of safely ascertaining in these cases whether an infection is limited to the bladder or whether it has involved one or both kidneys. Bilateral ureteral catheterization is not to be thought of in such cases as we are considering. Nor have we any means of ascertaining in any given case whether impaired renal function is due to the effects of back pressure alone or to back pressure and pyelonephritis. No doubt the kidneys may be infected without their function being impaired. In such cases the blood urea figures will remain normal. It is conceivable also that one kidney may be grossly infected, indeed partially destroyed, and the other kidney carrying out the work of excretion in such a way that no blood urea concentration is found. The clinical signs are few and not reliable. If a patient with fever, rigors, pyuria, a dry tongue, vomiting, etc., has tenderness and enlargement of the kidneys there is no difficulty; but it is otherwise when the clinical signs are very slight. The matter is of great importance from the fact that a patient without definite clinical signs of renal infection and without any evidence of impaired renal function may after prostatectomy succumb to an acute pyelonephritis.

I have only been able to trace one case during the last year in which fatal pyelonephritis followed prostatectomy, where a preliminary blood urea test showed no impairment of renal function. My colleague, Mr. Walter Thompson, has kindly allowed me to refer to the case.

The patient, a man aged 58, was admitted with an enlarged prostate causing extreme frequency of micturition and sometimes nocturnal incontinence. The urine was 1020 specific gravity, and contained a trace of albumin. The blood urea test showed 19.6 mg. per 100 c.cm. on October 25th, 1920. Prostatectomy was performed on November 4th, and the patient died on November 11th, 1920. *Post-mortem* examination showed an intense inflammation of the bladder with pyelitis and multiple abscesses in both kidneys.

Control of Infection.

A great deal can be done in infected cases to control the infection of the bladder or bladder and kidneys before prostatectomy is performed. The ordinary routine treatment of the infected bladder may be carried out, namely, regular catheterization, the administration of urinary antiseptics by the mouth, washing out the bladder once or twice daily with an antiseptic through the catheter, etc. Or a preliminary cystotomy may be done, and lavage of the bladder performed through a catheter or through the drainage tube. These methods are in many cases all that is necessary, but in all probability improvement is due mainly to the emptying of the bladder rather than to the lavage. For some years I have been treating the infected bladder on the lines laid down by Carrel for the treatment of infected wounds. In every case in which a cystotomy is done a drainage tube with two Carrel tubes attached is passed into the bladder; through these Carrel tubes two ounces of an antiseptic solution is injected into the bladder every two hours. The Carrel tubes have holes at intervals and the solution must come into contact with practically every part of the bladder mucosa. The patient is kept dry by a Hamilton Irving apparatus, a most satisfactory appliance in the hands of a capable nurse. The antiseptic I usually employ is the ordinary eusol solution, sometimes diluted to half-strength; Dakin's solution is too irritating; flavine I have thought comparatively ineffective. We have endeavoured to estimate the extent to which the infection is controlled by using an antiseptic in this way by various methods: by counting the number of organisms in a film taken from the suprapublic wound; by estimating the amount of pus in the urine over a given period. These methods have proved quite unreliable and very difficult to carry out. One can only judge by clinical results. It can be said with certainty that the amount of pus materially diminishes, that offensiveness of the urine quickly disappears, and that such complications as cellulitis of the cavum Retzii and phosphatic deposit in the suprapubic wound do not occur. I have said before that we have no means of telling whether the kidneys are infected as well as the bladder; neither have we any means of determining the effect of treatment on these lines on the infection of the kidneys. One can only give one's impressions gathered from ordinary clinical observation. I am convinced that drainage of the bladder with regular instillation of an antiseptic into the bladder has a very marked effect on infection of the kidneys.

There is another advantage in the regular instillation of an antiseptic into the bladder on the Carrel principle. Cases of acute infection of the bladder following the establishment of suprapubic drainage in cases of fractured spine, gunshot wounds of the spine, etc., are not unknown. In such cases the infection occurs viâ the drainage tube; it can be prevented by the instillation of an antiseptic. It is probable that if preliminary cystotomy were carried out in those cases of retention with impaired renal function but as yet uninfected, infection viâ the drainage tube would readily occur. We know it occurs very readily by a catheter, and I do not think I would venture to drain such

a case without taking the precautions to prevent infection which are available by regular instillation of an antiseptic. One may say with truth that, as a catheterized bladder will be an infected bladder, so also will a drained bladder.

Infection after Prostatectomy.

Some degree of inflammation of the bladder probably occurs in every case after suprapubic prostatectomy, generally because the bladder was already infected. In the ordinary case the infective process causes no anxiety, it does not lengthen the period of convalescence, and it does not persist after the wound is healed. But septic changes occurring in the bed of the prostate may have serious consequences; sometimes a more or less prolonged suppuration occurs; epididymitis is not uncommon; septic thrombosis of the prostatic veins leads to pelvic phlebitis with oedema of the legs, or even pulmonary embolism. Further, the infection may spread to the kidneys and cause pyelitis, pyelonephritis, pyonephrosis, or multiple abscess formation in the substance of the kidney. It is probable that in the majority of cases in which these serious complications arise the kidneys were infected before operation; but, as I have said before, we have no means of determining this with safety. These septic complications are particularly likely to arise in cases with dilated ureter orifices and impaired renal function.

In order to minimize the risk of these complications occurring I believe that antiseptic instillations should be continued after the prostate has been removed. The drainage tube, not too large, with two attached Carrel tubes, is used for the first few days; then, the drainage tube being discarded, one Carrel tube is inserted into the bladder; later, if thought advisable, a double-channelled catheter is passed and the instillations continued through one channel. Instillation is deferred for the first twelve hours after operation to avoid the risk of disturbing clot and exciting haemorrhage; instillation is much less likely to induce a secondary haemorrhage than is bladder lavage. True secondary haemorrhage is due to septic changes in the bed of the prostate, and these changes are much less likely to occur when regular antiseptic instillation is practised.

It is important not to be in too great a hurry to obtain healing of the suprapubic wound after prostatectomy, in cases of serious infection of the bladder. I was asked lately to see a case where the wound had healed and the patient was passing urine ten days after prostatectomy, but pyuria persisted and increased, and the patient died from septic pyelonephritis.

USE OF BLOOD UREA ESTIMATION IN DETERMINING THE NEED FOR PROSTATECTOMY.

Some degree of enlargement of the prostate is extremely common. Many elderly men suffer from frequency of micturition, and examination shows a degree of enlargement, with some residual urine. A large proportion of these men never experience any really serious trouble with the prostate. If they are not interfered with and not infected, they end their days comfortably, despite the disability. Prostatectomy is here unnecessary and meddlesome. They may even have an attack of retention, necessitating the use of the catheter for a few days. If not infected, recovery may ensue and no active treatment be required. But they require watching very carefully, and here the value of the blood urea test is most noticeable. If the proportion of urea in the blood shows a tendency to rise steadily in a patient known to have an enlarged prostate, even if his symptoms are not aggressive and there is no infection, haemorrhage, or distension of the bladder, the desirability of prostatectomy must be considered.

CONCLUSIONS.

1. Blood urea estimation is a reliable guide to the functional capacity of the kidneys.

2. Its estimation should be carried out in every case of enlarged prostate before operation.

3. Blood urea figures over 25 point to the desirability of a period of preliminary treatment, with drainage of the bladder either by catheter or through a cystotomy wound.

4. If the tied-in catheter is used further blood urea estimations will show whether improvement is taking place.

5. If not, a cystotomy should be done and further estimations carried out.

6. When the blood urea figures fall to under 30 prostatectomy may be done, the general condition of the patient being in other respects satisfactory.

7. In preliminary cystotomy and regular antiseptic instillation we have a method of dealing with cases of impaired renal function, whether due to back pressure only or to back pressure and renal infection. We can estimate the impairment in renal function by estimating the blood urea; we can only estimate the improvement in the infection of the kidneys by ordinary clinical observation. If the blood urea figures are normal, with a badly infected bladder, it is probable that one may assume that the kidneys are not yet infected.

DISEASES OF INFANTS DUE TO PROLONGED FEEDING WITH EXCESS OF CARBOHYDRATES.

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CHILDREN'S as well as adults' food must consist of a suitable mixture of protein, carbohydrate, and fat, besides water, salts, and some indefinite specific substance, though of course it is known that adults can live for a considerable time on a diet mainly composed of two of these substances. Here in Denmark Hindhede has shown that it is possible to exist on a diet comparatively free from protein, so long as it contains plenty of carbohydrate and fat; and the Eskimos' mode of living, and our experiences in the treatment of diabetes, show that man can live quite well on a diet chiefly consisting of protein and fat. On the other hand, it is beyond question that in the long run man suffers from such a one-sided diet, and if left to himself he will always try to vary his food.

As regards infants, we know that they too can thrive for some time on a diet poor in protein. Some years ago Biedert's cream treatment was much in use for infants; this was, however, abandoned, not because cream is particularly poor in protein and thus has a detrimental effect, but because the children, owing to the excess of fat, suffered from acute or chronic dyspepsia, leading occasionally to atrophy.

Feeding with Finkelstein's albumin-milk, which, when it was first tried, consisted almost exclusively of protein and fat, showed that infants are very sensitive to an insufficient supply of carbohydrates. Even a short course of this diet may lead to collapse. Carbohydrates are essential for infants, and they will digest not only sugar, but small quantities of starch also.

Formerly all starchy food was considered most harmful to infants, and diseases such as rickets, anaemia, and scurvy were ascribed to it. All the old specialists in diseases of children, therefore, prohibited the use of starch in the diet of children under 12 months. We now know that this is not so, and we give starchy food to infants suffering from a number of complaints, with great benefit. Buttermilk, malt and skimmed milk, contain, in addition to protein, large quantities of carbohydrates, consisting of sugar *and* starch, and this diet apparently often suits the infants admirably. It is, however, destitute of fat, and it is for this reason, as well as on account of its richness in carbohydrates, that it improves the condition of infants suffering from chronic dyspepsia and infantile atrophy.

The question whether infants can thrive without fat is at present of particular interest in Germany and Austria-Hungary, where there is a considerable shortage of fats. Pirquet has investigated this question, and has recently published his results. He changes abruptly from the ordinary diet to one in which fat is lacking, feeding the children on centrifuged milk to which is added plenty of cane sugar. In spite of the sudden change of diet he can find no change in the children's condition; they thrive and develop as before. Pirquet comes to the conclusion, therefore, that there is no apparent fat minimum for man, so long as the absence of fat is made up for by double the quantity of carbohydrate. That this conclusion is wrong the following considerations seem to prove.

As regards adults, we have no record of a diet consisting solely or chiefly of only one of these substances. No man will, of his own accord, live on protein alone, fat alone, or carbohydrate alone. The only instance of such a diet

being in use in Denmark is under the penal laws, when imprisonment with bread and water is resorted to. This means that the prisoner is fed on a diet chiefly consisting of carbohydrate, with only a small addition of vegetable protein. Six periods of five days, however, is the longest time permitted for this punishment, and even then it is interrupted every fifth day, when the prisoner is given ordinary food. There is no reason to think that any permanent harm ensues to the prisoners from this treatment, so long as they are otherwise in good condition, but they are said to be in a most miserable state when the punishment is over.

With regard to children, a diet of this description is, however, not at all uncommon, particularly for small children who are entirely dependent on what other people give them. Infants are often kept for weeks, even for months, on a diet consisting of carbohydrate, with a small amount of cereal proteins, which greatly resembles the prisoner's diet of "bread and water." This is the case when older children are put on the so-called "constipating diet," consisting mainly of barley water, oatmeal gruel, biscuits, rusks, bread, and occasionally bilberry juice, in addition to a kind of pudding made of rice boiled in water. In the case of infants, they are kept on a barley water and oatmeal diet for a long period, and sometimes the mothers feed their babies mainly on biscuit food. Feeding entirely on patent foods is very nearly the same thing, as most of these productions are in reality only refined biscuit foods.

If this food is merely given for a couple of days, or as an addition to the natural diet, or, again, with any of the ordinary milky diets, it is excellent. It is only when carbohydrate forms the main part of the food, and is continued for a long time, that it will be the cause of various forms of sickness.

The diseases caused in this way correspond only partially with the conditions described by the older specialists in children's diseases as due to a starchy diet. Only during the last few years have the conditions which occur when the child is fed on a diet excessively rich in carbohydrate been elucidated. The German doctor Czerny and his followers (Keller, Gregor, and Rietschel) gave the first and best descriptions of them; "Mehlnährschaden" he calls them. These disorders were apparently seldom met with in Germany in the past, whereas they seem to be of rather frequent occurrence in Denmark, judging from our experiences at the State hospital. As by degrees they become better recognized these complaints will be seen mostly in the form of mild attacks, seldom in their more pronounced forms.

The diseases arising from prolonged feeding with carbohydrate, with the relative exclusion of animal fats and proteins, vary apparently according to the child's age and original state of health and to the length of time during which the child was subject to the harmful diet. It has, however, not yet been possible to differentiate various forms of the disease, corresponding with the various carbohydrates. All kinds of starch and sugar seem equally injurious when given alone and for a prolonged period.

The following cases show the changes in the conditions of new-born and delicate babies after feeding them on carbohydrates alone for a long time:

Carl C., born June 21st, 1913; entered hospital August 30th, 1913; died August 31st, 1913. The child was a twin, of healthy parents; weight when born 2 kg. The first few days he was breast-fed, but when it was discovered that the mother had not sufficient milk, barley water was added to the diet. The child soon stopped suckling, and had, therefore, barley water only. He apparently thrived quite well, but about three weeks before admission to hospital he started getting weak. He did not drink much and the bowels acted more frequently, with loose evacuations. Recently he had been so weak that it was decided to bring him to the hospital. He was a most miserable little weakling. He lay perfectly still, with the arms bent and the legs drawn up. The abdomen was small, the skin dry and scaly, with extensive intertrigo on the buttocks. The fontanelle was sunken and the bones of the skull thin. The heart was weak, the pulse imperceptible, temperature 33.7° C. Both eyes showed xerophthalmia. Weight 1,640 grams.

In spite of various stimulants, such as hot baths and hot-water bottles, the temperature could not be raised above 34.3° C. He had constant signs of collapse, and died about twenty-four hours after he had entered hospital. The *post-mortem* examination showed bronchitis and isolated ecchymoses of the organs; otherwise the clinical examination was confirmed.

The conditions brought about by a diet consisting chiefly of carbohydrate resemble those due to chronic inanition. The store of fat and protein is drawn upon, and being weak from birth the child loses weight rapidly immediately suckling ceases. It gradually gains the appearance which is usually termed atrophic, but I prefer the term atrophia amylogenetica to distinguish it from the true atrophy of children, from which it differs both in origin and appearance. The treatment of the two types is also to some extent different.

If the child is a few months old, and particularly when it is strong, the excessive carbohydrate diet seems to cause quite different symptoms. If the child has been given milk from time to time, then the changes may be quite characteristic, as will be seen from the following case:

Anna J., born January 17th, 1914, entered hospital April 17th, 1914, discharged June 9th, 1914. The child had never been nursed at the breast. She was a strong baby when born, and for the first month and a half had nothing but oatmeal gruel. Later a little milk was added to the gruel, generally one part of milk to two parts of gruel. Latterly she was given biscuit diet daily, and from time to time dilute milk (half milk and half water). The child seemed to develop excellently on this diet, and increased rapidly in weight. Latterly the mother thought the child was getting too fat, and noticed that she was getting rather fretful. The bowels always acted normally.

The child looked very fat, but the subcutaneous tissues were spongy and the eyes were half closed on account of oedema which was general. The abdomen and lower extremities were very tense from the oedema. There was no ascites. The child was pale and limp. There were fissures behind the ears and intertrigo on the buttocks, otherwise the skin was normal. Weight, 5,070 grams; temperature, 36.3° C. Urine normal.

A diet of ordinary sterile milk and barley water as a basis gradually caused the oedema to disappear, and the tissues regained their normal texture. The weight at first decreased to 4,800 grams, but later the child did well and weighed 5,300 grams when discharged, although she was a good deal behind in development.

A spongy and hydraemic condition of the tissues develops, which is a direct consequence of the carbohydrate diet. If this is even partly changed the oedema disappears. In well-marked cases the children have an appearance similar to that of Bright's disease, but the urine never contains albumin or kidney elements. In the primary stage of this disease the tissue is only puffy and spongy, and this stage is the one more frequently met with.

The authors who first described this form of the disease called it hydraemic atrophy. This is, however, a misleading term, as these children do not look atrophic. It would be more to the point to call it dystrophy, as the growth is distinctly abnormal. Furthermore, the hydraemic condition is not always very marked, particularly in early cases; and the tissues may even, in a few exceptional and very serious cases, assume quite a different character.

Lydia A., born April 30th, 1915; entered hospital September 23rd, 1915; died October 2nd, 1915. The child came of a healthy family, and she was a strong baby when born. For the first month she had nothing but patent food, and the following two and a half months oatmeal gruel and semolina pudding, made with one part of milk to three parts of water; as the child got diarrhoea the mother took to patent food again, which the child had been fed on ever since. The mother declares the child was quite fit and doing well up to a fortnight ago. It then became limp, drank poorly, and the evacuations were loose.

It was a miserable, pale child, evidently suffering a good deal; it cried at the slightest touch, but no hyperaesthetic areas could be found. The child was very exhausted and cold, with bluish hands and feet. The heart was feeble, the pulse imperceptible. The state of nutrition was apparently good (weight, 5,800 grams), but that was due to the subcutaneous tissue becoming sclerotic nearly everywhere. There was no oedema. The child lay nearly always with the head retracted and the arms in the "paw position." There was pronounced hypertonicity of the muscles; the skin was perfectly dry, and its turgor nearly gone; there were occasional papular infiltrations. The conjunctivae were dry and injected, the eye itself dull. The urine showed no albumin or cells.

In spite of stimulants and breast-feeding the child did not recover. The necropsy showed purulent pneumonia, otherwise the clinical features were confirmed.

The plump appearance in this instance was not due to oedema, as in the previous case, but to general sclerotic infiltration of the subcutaneous tissues. This gave the child a peculiar mask-like appearance, and it was still more uncanny on palpation.

Although the child was much behindhand in growth and development, atrophy would hardly be the right word.

The appearance was not atrophic; she had grown to some extent, but the condition of the tissues showed that development had been abnormal. The dystrophic and atrophic forms are identical in their origin, both being due to a diet consisting chiefly of carbohydrates, particularly starch, over a long period. I therefore prefer to call these complaints "dystrophia amylogenetica," in order to distinguish them from other forms.

From my rather large and gradually accumulated experience of these regrettable diseases, it appears that it is the delicate and newly-born infants that are most susceptible to the atrophic form, and the stronger and somewhat older ones that mostly suffer from dystrophy, particularly if from time to time they have had a little milk, or milky foods, in addition to the carbohydrate diet.

The peculiar rigidity and tone of the muscles often observed show that they have become changed. This was first observed and described by Gregor, and more thoroughly later by Czerny and Keller. The pronounced cases show opisthotonos and an elastic resistance of the muscles. This was present in the first and the last of the above quoted cases. It is comparatively easy to straighten out the contracted muscles, but they relapse at once as soon as released. This hypertonicity is a serious prognostic sign, but it disappears easily and quickly if the patient recovers. As far as I have been able to observe, it is not related to infantile tetany, which it somewhat resembles.

Common to all children fed on a carbohydrate diet is their great susceptibility to all infections. These children nearly always have some infection, most often of the mucous membranes or a simple dermatitis. When serious acute infections set in they will as a rule react with an enormous loss of weight, due to the surplus water in the tissues suddenly being excreted.

The prognosis of these cases is always very serious and distinctly unfavourable when the vital parts are degenerated.

The most important point in the treatment of these children is careful nursing and the use of stimulants. Furthermore, their diet must be altered so that they obtain the substances they have been without for so long—that is, protein and fat. The best way of doing this is to give them a wet-nurse. If one is not available they must be fed on a diet the basis of which is sterile milk, diluted according to age. Care must be taken, however, not to give too large quantities at first. In particular, when giving cow's milk it is necessary to be very careful, as by taking more than can be digested the child might get chronic dyspepsia or genuine atrophy.

It is a mistake also suddenly to stop the supply of carbohydrates, and still worse to put these miserable children on a diet of water or tea, from which I have often seen the most disastrous results. When the milk diet is started the children must be given as much carbohydrate as they can digest at their respective ages. The best course to pursue is, naturally, to employ a wet-nurse at the same time, and in the most serious cases this is the only means of saving the child's life.

In these cases the faeces become not only sour and fermented, but foetid and irritating; the skin of the buttocks gets red if the soiled napkin is left in contact with the child's skin only for a short time. If the irritation is repeated many times, the skin will be affected by weeping intertrigo all over the napkin area. It is, however, not only the skin which shows the effect of the irritation of these evacuations. The mucous membranes of the intestines, particularly the large gut, reacts at first with slimy secretion, later with haemorrhage, and with brisk peristalsis. As a consequence the child is restless owing to attacks of colic and frequent foul-smelling evacuations. Gradually there ensues a typical colitis, which in many cases is very serious. I have termed this disease "colitis amylogenetica" because of its association with carbohydrate, particularly starch. It occurs in a mild form in the younger infants; only the older and stronger children show characteristic "colitis amylogenetica," and my experience indicates that it is more frequent amongst children in the country. The reason why it is so frequent must, I think, be sought in the prolonged and ill-advised use of the so-called constipating diet.* Another cause of its frequency is no doubt to be found in the disinclination of many doctors to administer milk and milk preparations to children suffering from diarrhoea, though a milk diet is undoubtedly in most cases the best treatment for chronic infantile diarrhoea. Even in the case of infectious toxic cholera infantum a milk and water diet is much to be preferred to barley or oatmeal water.

I have seen quite a number of children wrongly treated by means of a long-continued constipating diet, and many of them have been in a most miserable condition, particularly when they have been simultaneously loaded with bismuth and silver nitrate, combined with enemas of the latter. I have even seen children become scorbutic under this treatment.

The evacuations may remain watery in spite of the milk diet, which contains only trifling quantities of carbohydrates. It may in these cases be necessary to give the intestines a complete rest, by giving the child for one or, at the most, two days, boiled water only, or weak tea, without milk or sugar, but with saccharine if necessary. On the second or third day milk diet may be started (one part of milk and two parts of water); and at the same time may be given increasing quantities of protein milk. It is not easily fermentable, and therefore is most suitable for the treatment of these cases of chronic colitis. It is made as follows:

To one litre of rich milk is added one teaspoonful of Hansen's liquid rennet. The milk is then placed in a water bath at a temperature of 42° C. to 43° C. for half an hour; it is poured through gauze, when the coagulum is collected and the whey drained off. The casein is now rubbed through a very fine sieve, and this is repeated ten times. The first few times the casein is mixed with half a litre of butter-milk, and later with an equal quantity of water. After mixing, the liquid should pass readily through the sieve. The protein milk is now boiled with continuous stirring and the desired quantity of sugar added (usually 30 grams of castor sugar). After the addition of sugar the milk is quickly cooled with continuous stirring, and then once more passed through the sieve. The prepared protein milk must be kept in a cool place.

Apart from the diet, I administer preparations containing tannin, preferably acorn cocoa in milk. If it does not agree I use albumin tannate, which has the advantage over metallic salts of being non-toxic. It can be safely given in doses of a couple of grams a day for a long time, even to quite young children. In some cases bismuth salts will give better results, the best being bismuth subsalicylate. If, however, the motions are not stained black, the drug may be stopped, as it is having no effect. As bismuth is a poison, it should never be administered for a long period, and it ought to be a fixed rule never to give bismuth, or preparations containing tannin, to a child when on a diet of water or tea. These constipating drugs will only give satisfactory results when taken with milk and milky or other foods.

The oatmeal and barley-water diet will generally be sufficient in cases of ordinary acute dyspepsia, particularly in those frequent cases where the diarrhoea is due to overfeeding with milk and milky foods, causing a pronounced protein decomposition in the intestines. Here it is essential that the barley water should be thin and never sweetened with more than 2 per cent. of cane sugar. Such a diet is meant to be a starvation diet, intended to give the intestines a rest. In the case of an ordinary diarrhoea, the bowels will act normally after a few days of such a constipating diet, and the children may then gradually be given their usual food.

By the term "milk," as used above, is understood good fresh milk which has just been brought to the boil. Raw milk might have just the opposite effect, and this is the reason why children suffering from these intestinal complaints should always be given boiled milk.

* During this treatment the child is often given only arrowroot and water, or barley water.

AT the annual meeting of the Society for the Prevention of Hydrophobia, held at the Farmers' Club on February 1st, Major John Penberthy, ex-president of the Royal College of Veterinary Surgeons, was elected chairman of the committee. The annual report stated that experience of the outbreaks of rabies in this country during the past two years had confirmed the society in its policy of advocating universal muzzling of dogs for a limited period. The futility of attempts to stamp out rabies by muzzling dogs in limited areas has again, it is stated, been demonstrated by recent experience. Mr. F. W. Fletcher, F.C.S., Windsmill, Enfield, Middlesex, has been elected honorary secretary in the room of the late Mr. Frank Karslake, one of the founders of the society.

SAPRAEMIC GLYCOSURIA.*

BY

CHARLES GASKELL HIGGINSON, M.A.LOND., M.D.DURHAM.

A NEW truth needs much tenacity of life, for few men like to be disturbed in the opinions that they have been at the pains to form; and I am now venturing to expound once again a true doctrine which, though it was well established twenty-two years ago, has not yet been properly diffused through the medical profession, but has had a narrow escape from oblivion. An illness of my own is the reason why this exposition falls to my lot.

In July, 1909, when I was working in a Berkshire sanatorium, I was suffering so much from a hard carbuncle, four inches in length by three in breadth, almost mesially situated where the occiput joins the neck, that I determined to consult Mr. X., of Harley Street. While waiting for my cab I tested my urine, so as to save the surgeon some trouble. I found that Fehling's solution precipitated copper, indicating that I had glycosuria; and a brother practitioner, concluding that I had diabetes as the foundation for my carbuncle, made to his friends a confident prognosis of my imminent death. My own view was that, in any case, Mr. X. would operate, and that, even if he did not, no harm would be done by consulting him.

As I had no thirst nor hunger, nor emaciation nor polyuria, I doubted whether I had diabetes, and I let my thoughts stray among the exceptional glycosurias of the textbooks. Still, I went to Harley Street thinking that, on the whole, the balance of probability was in favour of diabetes, that I should not live long, and that perhaps, like my grandfather, I ought to be contented with the fifty-one years of life that were already mine. After a swift examination, Mr. X. said: "Don't be surprised or afraid if you get glycosuria with this great carbuncle; you will probably have it." I replied: "Pray do not trouble to prophesy; I have it already." Then Mr. X. uttered, with the utmost confidence, these unexpected words: "And you will lose it." He told me that a fellow-resident of his at St. Thomas's Hospital, now Sir Cuthbert Wallace, had proved that the glycosuria of carbuncle and gangrene was commonly not the cause of those diseases, but that the sapraemia from the carbuncular or gangrenous focus was the cause of the glycosuria, just as phloridzin or other poisons caused glycosuria; and that Mr. Wallace had even gone one step farther, and had found that, while glycosuria would appear in the normal person after eating half a pound of glucose, yet in a person whose carbuncle was not quite sufficiently poisonous to produce glycosuria unassisted, glycosuria would appear on his eating (according to the degree of poisoning) one, two, four or six ounces of glucose. Thus, he jokingly added, there was no excuse for our failing to understand the boast of men who said that they had cured diabetes by amputating a leg! The patient would have been suffering from sapraemic glycosuria generated by a gangrenous focus on the leg, and amputation would have cured the glycosuria by removing its cause. So I endured the cruciform incision, and in three weeks my enemy had sloughed away, and I was free alike from carbuncle and glycosuria.

Six months afterwards I consulted a distinguished physician and told him the facts. He smiled incredulously and at once asked for a specimen of my urine, and he was amazed at finding no sugar. In order to see how normal I was as regards my saturation point for glucose a year after my illness, I found that four hours after I had eaten half a pound of glucose my urine contained 1½ grains of glucose to the ounce, according to both methods, Roberts's and Pavy's; in six hours I found no glucose. (Some days afterwards I tried to eat a pound of glucose, but vomited after 13 ounces.) So I must be considered normal as regards my saturation point, which, as regards alimentary glycosuria, is registrable at eight ounces of glucose. Never since have I had glycosuria, alimentary or sapraemic, nor tried to get it.

History of the Doctrine.

Thirty years ago it was held that "diabetes offers an almost positive bar to any kind of operation" (Treves's *Operative Surgery*, i, p. 18, 1891). The present writer, while a student, frequently saw patients suffering from gangrene left to die unhelped by operation because glucose had been found in their urine, and it was through investigation of cases of gangrene complicated by glycosuria that truer views were first reached.

In the *Medico-Chirurgical Transactions*, vol. 75, 1892, is a paper by Mr. W. G. Spencer on amputation in diabetes mellitus. After recording the cases on which he bases his conclusions, Mr. Spencer says:

"Such stress has been laid upon the danger from inflammatory complications in diabetes mellitus that many writers condemn operative procedure without qualification, or at least omit to state the indications for it. Yet there is enough evidence, I believe, to show that by the timely adoption of major amputations life may be prolonged *and the amount of sugar excreted reduced to a minimum* (the italics are mine) in cases where the attempt to effect this by medicinal treatment, in the presence of a severe inflammatory lesion, has quite failed."

Here we have the definite statement that glycosuria may be reduced to a minimum by the removal of a septic focus. How very near he came to the complete discovery of the true doctrine! Again he says: "To put the conclusions in another form. Diabetic gangrene should be operated upon by following the rules already established for other forms of gangrene." Here we have a direct contradiction of Sir Frederick Treves's statement of the previous year, that "diabetic gangrene of a limb is scarcely within the scope of surgical measures; an amputation in such a condition is almost invariably fatal." Sir Frederick Treves, in view of the articles of Mr. Spencer and Mr. Rickman Godlee, rewrote in subsequent editions his own views in the light of theirs.

In the next volume of the *Medico-Chirurgical Transactions*, vol. 76, 1893, Mr. Rickman Godlee (now Sir Rickman Godlee) wrote an article entitled "On Amputation for Diabetic Gangrene." He writes to much the same effect as Mr. Spencer, and definitely denies the doctrine of 1891:

"In truth the introduction of the antiseptic principle has rendered operations upon diabetics very much less formidable than they used to be when most of the present textbooks on surgery were written. The weakened tissues may be, and often are, able to withstand the mere mechanical injury of an operation, although they cannot endure this as well as the irritation produced by putrefaction. At the same time it must not be forgotten that no amount of antiseptics can do away with the danger of coma or heart failure following an operation, though their wise employment may immensely diminish the chance of sloughing of the flaps."

Here Sir Rickman definitely singles out the successful use of antiseptics as the chief cause of the newly discovered comparative safety of operations on so-called diabetics. The next year, in the *St. Thomas's Hospital Reports*, New Series, vol. 22, 1894, there appeared an article by Sir Cuthbert Wallace on "A Case of Gangrene of Foot with Sugar in the Urine successfully treated by Amputation."

"The amount of sugar," he says, "rose for the first three days after operation—560, 1,360 and 1,460 grains being the respective amounts in twenty-four hours. From this time the quantity fell, except for an occasional rise, continuously until the fifteenth day, when the amount was only 190 grains. Then for three days there was only a trace, when, on the nineteenth day the amount rose to 234 grains, to fall next day to 60 grains. On the succeeding day there was a trace, after which the sugar ceased entirely."

Again: "It happens occasionally that after amputation the sugar disappears or is greatly diminished, and this seems to suggest that it is possible that *the gangrene may cause the presence of sugar, possibly through the absorption of septic products.*" (Italics mine.)

We have often noticed the remark of the textbooks and teachers of to-day that "transient glycosuria may be associated with a carbuncle," which shows that we ought now to be ready for the true theory to fit the observed fact. Formerly the glycosuria used to be considered to be the predisposing cause of the gangrene or the carbuncle associated with it. Here, for the first time, we have the suggestion strongly conveyed that, on the contrary, the sapraemic condition may be the cause of the glycosuria.

In the *Lancet* of December 23rd, 1899, Sir Cuthbert Wallace published another paper on "Gangrene Complicated by Glycosuria." Here we find the whole theory of transient glycosuria elaborated, and based on the observation of typically septic cases of gangrene, carcinoma of rectum, ulcer of rectum, erysipelas, lymphangitis, and carbuncle.

*A paper read at the Medical Institute, Birmingham, before the British Medical Association, on December 16th, 1919. Revised, January 18th, 1921.

The Saturation Point.

There is in normal human blood glucose to the amount of about 1 per 1,000. In diabetes the blood may contain from three to six times as much. The portal vein may in normal life contain 4 per 1,000. This glucose, $C_6H_{12}O_6$, on reaching the liver is arrested there, and stored in the form of glycogen, $C_6H_{10}O_5$, till it is served out to the blood again gradually, in another form, for the needs of bodily heat and work, etc. Normally the liver is not surcharged with glycogen, nor the blood with sugar. That is to say, in Sir Cuthbert Wallace's language, that the saturation point is normally not reached. But when, either because of the liver's insufficiency as a storehouse of glycogen, or because too much glucose is poured into the blood stream, the blood is surcharged with glucose, the saturation point is said to have been reached and passed. Then the blood excretes its surplus glucose into the urine, and glycosuria occurs.

Now the saturation point is by no means constant, and if for any reason it falls, it may happen that even the normal amount of glucose in the body may, through the refusal of the liver to secrete it as glycogen, accumulate excessively in the blood, and the excess may be excreted by the kidneys in the urine. In other words, there may be hyperglycaemia, and consequent glycosuria, merely because of a temporary failure on the part of the liver to secrete from the blood the due amount of glycogen; the saturation point is lowered for the body and hyperglycaemia necessarily follows.

Now one of the most important causes of the lowering of the saturation point is sapraemic poisoning, and in this fact lies the true explanation of the transient glycosuria that is associated with carbuncle or gangrene. As an instance of this, Sir Cuthbert Wallace mentions his Case No. 5:

"A woman, aged 65 years, was admitted into the hospital with a carbuncle of the back of seven weeks' duration. The urine contained 300 grains of sugar in the twenty-four hours. The slough was excised, and the sugar disappeared from the urine in nine days, and was still absent six weeks later." There was no symptom of diabetes in this case except the glycosuria, and the diet was unrestricted.

Again, suppose that the saturation point remains steady. Even so the normal man can pass it if he introduce enough glucose into his blood stream. I myself passed it by eating half a pound of glucose at 6 o'clock one morning.

"It has been shown," says Sir Cuthbert Wallace, "that all persons possess a saturation point; that is to say, that sugar will appear in the urine if a certain quantity of carbohydrate is taken at a meal. A healthy man can dispose of 300 grams (say 9½ oz.) of glucose at a meal and yet none will appear in the urine. This is not so with a patient suffering from septic absorption, as in such a case 50 grams (say 1½ oz.) of glucose will often pass into the urine." Of his Case No. 8, a man of 31, admitted on May 29th, 1898, with diffuse cellulo-cutaneous erysipelas of the arm, Sir Cuthbert writes: "The urine was acid, with a specific gravity of 1020, and contained no albumin nor sugar. On the 31st 100 grams (say 3 oz.) of glucose were given, and the urine passed in the next twelve hours was collected and found to have a specific gravity of 1020, and to contain sugar. Fermentation with yeast reduced the specific gravity to 1016 (that is to say, the urine contained four grains of sugar to the ounce). On June 23rd the wounds were healing well, and the temperature was normal. The patient was now given 100, 200 and 300 grams (say 3 oz., 6 oz. and 9 oz.) of glucose on succeeding days, but no glycosuria resulted." In Case No. 10, Sir Cuthbert Wallace writes as follows: "A man, aged 54 years, was admitted into the hospital for a carbuncle on the neck of the size of a saucer, which he had had for six weeks. Fifty grams (say 1½ oz.) of glucose were given on two successive mornings, and on the second occasion sugar was found in the urine, which on admission had been described as '1016, acid, no albumin, no sugar.' Fermentation reduced the specific gravity by four points (that is, the urine contained 4 grains of sugar in 1 oz.). The carbuncle was scraped, and ten days later another 50 grams of glucose were given, and again sugar appeared in the urine. Fifty grams on the two successive days produced no sugar, nor did 75 grams on the next day. A week later the patient was tested up to 150 grams (4⅞ oz.), but the urine continued normal."

Dr. R. T. Williamson (whose great learning and industry all of us whom he taught at the Manchester Royal Infirmary have reason to remember) quotes Von Noorden as saying that in a healthy person glycosuria will be caused by a single dose taken on an empty stomach of from 180 to 250 grams of glucose (6 to 8 oz.).

Quoting Naunyn, he says that if distinct glycosuria occurs when a man takes 100 grams (3 oz.) of glucose two hours after a standard breakfast of ½ litre of coffee and milk and 80 to 100 grams of bread, then the saturation point is distinctly lowered. "Von Noorden found that in four out of fifteen obese persons temporary alimentary glycosuria was produced by 100 grams (3 oz.) of glucose; of these four individuals two became diabetic several years later." "In traumatic neurosis or neurasthenia there is often a diminished power of sugar destruction; also Ebstein and Asher have shown that traumatic neurasthenia is sometimes followed by diabetes mellitus." (Williamson's article on Glycosuria in the *Encyclopaedia Medica*.)

Recent Cases.

I have sometimes had under my care women from whom I thought proper to wean their babies, once on account of enterica, at other times on account of some septic condition in the mother. After the weaning the mother's urine would reduce Fehling's solution for several days, the sugar of the milk being absorbed from the breasts into the blood, which, in its turn being surcharged, excreted the superfluous sugar through the kidneys, so that it was found in the urine.

In my own practice, as well as in my own person, I have found reason to be thankful for the new doctrine.

At the South Manchester Poor Law Hospital in 1916 one of my patients was a middle-aged man with a wooden leg. On his first admission, four years before, his bed-card was marked "Diabetic Gangrene," and a surgeon had boldly amputated the leg for gangrene, despite his diagnosis of diabetes, as Sir Rickman Godlee would have done. I found the man quite well, and he had no glycosuria, so I had the pleasure of telling him that, according to a great discovery recently made and proved, he had never had diabetes, but only a peculiar and temporary blood poisoning from his bad leg; that I had myself suffered blood poisoning in the same way, only from carbuncle of the neck instead of gangrene of the leg; and that, as regards diabetes, both of us were as sound as anyone in Manchester. So he went on his way rejoicing, and I wrote "Sapraemic Glycosuria" on his old bed ticket.

At an epileptic colony the medical officer found Fehling's test for sugar positive in the urine of a young man suffering from a small but angry boil. He asked me, as a puzzle, whether sugar was present or only one of the rare reducing agents described in the textbooks. I diagnosed sapraemic glycosuria, and proved the presence of sugar by the fermentation test. The glycosuria vanished almost as soon as the boil.

A corporal in another war hospital brought me a patient who had been passed in Class A1. I found a large suppurating carbuncle on his neck, and a little glycosuria; no hunger, thirst, emaciation or polyuria. I made the diagnosis of sapraemic glycosuria secondary to carbuncle, and the prognosis of early recovery from both carbuncle and glycosuria. I convinced one of my colleagues, but was gently assured by others that time would falsify my optimistic prognosis. I soon removed the sloughs, and the glycosuria quickly vanished. Query: If the private had by chance gone to one of my sceptical brethren instead of coming to me, would he have been discharged from the army as a diabetic?*

Conclusions.

A. To give our textbooks and teachers their due, we must admit that they used to teach us that there was such a thing as "transient glycosuria." The word "transient," however, was of the lowest practical and scientific value, for on the one hand we could never know that the glycosuria was transient until it was gone, and on the other hand the cause of the glycosuria was left undesignated. But the words "sapraemic glycosuria" have high value: in diagnosis, for the cause is named; in prognosis, because an early, happy result—life instead of death—is soundly predicted; and in treatment, because common diet may be used and the modern starvation and starch-free diet (a great nuisance) is forbidden.

B. I believe that carbuncle or gangrene secondary to diabetes is not very common, but I readily see why so debilitating a disease as diabetes can be, like other forms of debility, a real predisposing cause for carbuncle or gangrene.

(1) In sapraemic glycosuria the sugar is relatively small in quantity. The largest quantity recorded in this paper as having been passed in twenty-four hours is 1,400 grains (or 3 oz.). In diabetes the patient commonly passes from half a pound to three-quarters, say, 4,000 to 6,000 grains daily.

(2) Consequently, in sapraemic glycosuria we find an absence of the great diabetic symptoms—namely, no hunger, no thirst, no emaciation, no polyuria.

(3) In the case of sapraemic glycosuria associated with gangrene there will probably be found enough arterial degeneration in the patient to account for the gangrene without it being necessary to fly to the hypothesis of diabetes.

C. As the sapraemic products of gangrene, carbuncle, erysipelas, etc., differ considerably from each other, it is

* I have recorded here nothing that happened before 1891, but I suspect sapraemic glycosuria in the case recorded by Trübe in 1861. "M. Delpech," he says, referring to a great French surgeon of a hundred years ago, "found sugar in a case of carbuncle of lip and chin, which went on to complete recovery."

probable that one sapraemia will differ much from another in its power of lowering the saturation point for sugar. At present gangrene and carbuncle are the most striking and misleading agents in the causation of sapraemic glycosuria, but further investigation will doubtless reveal a long series of such agents differing from each other very much in the power of causing sapraemic glycosuria.

SELF-INFLICTED INJURIES IN CIVILIAN PRACTICE.

BY

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I.—MR. RENDLE SHORT.

A CASE like the following might so easily get a surgeon into undeserved trouble that it seems desirable to put it on record.

A young woman, giving her age as 18, was admitted into one of my wards at the Bristol Royal Infirmary in November, 1915, with a three weeks' history of appendicular colic. I removed the appendix. There were two small ulcers in its mucosa. She healed well and went back to her home in the country. On January 27th, 1916, she paid us a visit complaining of pain in the scar, but nothing abnormal could be found.

In December, 1918, she was readmitted, with the history from her doctor that she had been in the workhouse infirmary for many weeks discharging pus and fragments of a gauze swab from the scar of the appendix operation. He and his partner had opened up the wound under an anaesthetic, but could not find any gauze, nor did the track go through the muscles of the abdominal wall. As it still did not heal, and fresh bits of gauze came out, they sent her up to me.

Naturally I was very perturbed. It is an absolute rule with us never to put a swab in the abdomen without a tape *and* artery forceps on it, to count all swabs before and after operation, and almost never to use gauze packing; but to err is human. The patient's age was now given as 24. For the first few days after arrival her temperature was high, about 103°. At first the pulse was also quick, but after a while the slow pulse, normal general appearance, and very irregular high temperature led us to give her the thermometer again, just after it had registered over 101°, and we found that in the mouth it was normal. After that she was deprived of her hot-water bottle when her temperature was taken, and it became normal.

Meanwhile the abdominal sinus discharged freely. I opened it up on January 16th, 1919, and found no gauze. The tracks were extensive amongst the abdominal muscles, but did not go through them to reach the peritoneum. I cleaned it all up very carefully, and drained the wound after partially closing it. It did not heal. Some weeks afterwards a piece of selvedge-edged gauze came out, such as we never use for swabs. This relieved my mind greatly. She was sent home still with a small sinus and returned to the workhouse infirmary. Mentally she behaved and conversed quite normally.

In September, 1919, several more pieces of gauze came out, which were sent me by post. Then she became very ill, and there was a discharge from two openings, one on the abdomen and the other below Poupart's ligament, smelling like faeces. I readmitted her. She now gave her age as 19. On September 22nd I operated, beginning by exploring the abdomen in the middle line. The abdominal cavity was quite normal. The caecum was not adherent to the anterior abdominal wall, and there was no mass in the right iliac fossa. I closed the abdomen again and slit up the sinuses. There was a foul track connecting them, about six inches long, running deep in the subcutaneous fat but not penetrating the muscles. In the deepest part of the sinus was a piece of wool as large as a haricot bean, with a faecal odour. I thoroughly excised the whole track and sewed up the whole incision in clean tissues. Over the dressing we then put on yards and yards of adhesive plaster, completely encircling the thigh and lower abdomen. The operation was performed in the presence of eight or ten most interested spectators, whose names were recorded in the notes as witnesses.

It was, of course, impossible for the patient to get at the wound, strapped up as it was with continuous adhesive plaster, and it had healed up, though rather insecurely on account of deep sepsis, in about a fortnight. One or two small abscesses formed, discharged, and healed up before we could regard the scar as safe. When she went home, soundly healed at last, I roundly accused her of pushing in the gauze and wool herself. She denied it indignantly.

In January, 1920, so her doctor informed us, the scar started discharging again through a fresh sinus, and presently all her urine was passed through this sinus. She became very ill, and nearly died. In June, 1920, she was readmitted to my ward. She looked thin and ill. There was a large sinus in the lower end of the old appendix incision, through which the whole of her urine escaped. A skiagram was taken, which showed an elongate foreign body lying in the bladder. On June 17th I performed suprapubic cystotomy, and removed a broken piece of a bone knitting needle, four inches long, encrusted with phosphates, which was loose in the cavity of the bladder. When pressed a few weeks after to account for the presence of the needle in the bladder she at first said that her doctor at the workhouse infirmary had lost it in probing the wound, but finally she admitted that she had pushed it into the bladder herself from the abdomen.

When I returned from a holiday at the end of August, though the sinus in the appendix region had healed, the suprapubic opening was still as large as one's finger, and I felt sure that the patient was tampering with it. A catheter had been tied into the bladder through the urethra without hastening healing; on one occasion the catheter was found blocked with wool. Then the end of the catheter disappeared. On August 31st I operated for the fourth time, removed about an inch of the end of the catheter from the bladder, sutured up the suprapubic wound, and secured it with an anchored dressing. To give it a better chance to heal I dilated the urethra sufficiently to give her incontinence for a week or two. By this means the wound eventually healed up, and she was sent out well.

I have recently heard from her doctor (November, 1920) that the suprapubic wound is open again. She makes no secret this time that she did it herself.

It was quite clear to us, from the time of the operation in January, 1919, that these sinuses were the result of self-inflicted injuries, and that the gauze had been pushed in by herself, for the following reasons, quite apart from the routine precautions taken at the original operation in 1915:

1. The original wound healed well, and stayed healed for years.
2. Not one swab, but several small pieces, came out.
3. The sinus did not penetrate the abdominal muscles, so that any swab must have been left, not in the abdomen, but in the abdominal wall, which is scarcely credible.
4. She had already been detected "faking" her temperature.

When later, in spite of two negative explorations of the sinus—one at home and one by me—a piece of selvedge-edged gauze, a lump of wool, and enough separate fragments of gauze to constitute four or five swabs, were found in the track, of course the nature of the case became obvious, and was confirmed by the facts that healing did not take place when she could get at it, but union by first intention took place when she was thoroughly strapped up. Nevertheless, there was a stage when an action at law for negligence in leaving a swab behind would have been all too likely to succeed, and the putting of this case on record may be a protection to some surgeon unjustly accused in the future. Legal proceedings were never threatened against me.

The motive and the state of the patient's mentality are hard to fathom. That she should be an inmate of a hospital and a workhouse infirmary for over two years, and inflict such injuries upon herself as to push a thick bone needle from the right iliac fossa into the bladder, simply to escape work or to excite sympathy (of which she got very little in Bristol), seems hard to believe, yet the only evidence to be found of unsoundness of mind is furnished by these actions. Her behaviour and conversation were otherwise normal.

Perhaps, in view of the incredible nature of the case, it may be as well to state that the facts can be vouched for by a whole succession of my house-surgeons and dressers, and the patient and "finds" have been shown to various surgical meetings. I owe a considerable debt to the acumen of my ward sister, Sister Julia Gross, in clearing up the nature of the case.

One somewhat similar example of a self-inflicted injury has come under my care. Some years ago, when our dermatologist was away at the war, I was asked by the acting out-patient physician, Dr. W. A. Smith, to see a girl, aged about 14, because she got a peculiar rash on her face every Wednesday afternoon at about 1 o'clock. The distribution was that of lupus erythematosus, but the characters were those of irritant dermatitis. Of course the extraordinary time-relation made it quite certain that it was an artefact, though we inquired if there was anything special about her diet on Wednesdays; there was not. I suggested having her up on Wednesday morning

and putting on a lint and ointment face-mask. This was done, and as her mother refused to take her home through the streets like that we had to admit her. On that Wednesday no rash appeared, and she went home next day. On the following Wednesday the rash reappeared, but obviously we could not find a bed for her every week. Why she did it I do not know.

II.—MR. CYRIL WALKER.

It is not easy to understand the motive which induced the girl whose case is to be related to inflict so much pain upon herself, but I have very little doubt that she was in some way tampering with her eyes long before the pieces of cotton-wool and thread were discovered.

L. G. came to me at the Bristol General Hospital as an out-patient in 1892 when she was 6 years old. She was then suffering from phlyctenular conjunctivitis and keratitis. She soon recovered under the usual treatment, but had very frequent recurrences, so that for some eight or ten years she was almost constantly under treatment. When she was 8 years old she had typical molluscum contagiosum of the eyelids—a disease, by the way, which is seldom seen amongst ophthalmic out-patients now. When she was 12 she developed tuberculous glands in the neck, and in consequence underwent three extensive operations between the ages of 15 and 17. The corneae were at that time so much damaged by recurrent strumous keratitis that she could only read big print, and no examination of the fundi was possible. When she was 18 she had an extremely severe and intractable attack of keratitis affecting both eyes, and accompanied by great photophobia and intense spasm of the orbicularis. She was an in-patient for some months, and towards the end of her stay in hospital it was noticed that on two or three occasions a tiny piece of cotton-wool or of thread from a bandage was found in the conjunctival sac. She was not definitely accused of having introduced these foreign bodies, but she was questioned about it and told to be very careful not to touch her eyes herself. Her general condition slowly improved, and her eyes gradually quieted down, The corneae had been rendered very opaque all over by the interstitial keratitis. No fundus reflex could be obtained, and her vision was reduced to bare perception of light. The corneal condition was not enough to account for such great loss of sight, and it must be assumed that she had choroiditis at the same time as the keratitis.

Soon after this, as her health was fairly good and there seemed to be no further prospect of recovery of sight, she was admitted to the Blind Asylum as a resident pupil. Attacks of conjunctivitis with keratitis soon came on, and after several attacks Dr. Flemming found that she deliberately introduced pieces of the thick paper used for Braille writing under her lids. On three occasions a piece as large as the finger-nail was found in her right eye. She was very sternly spoken to by Mr. Cross, and an exaggerated account of the risk she ran of setting up dangerous, perhaps fatal, inflammation induced her to desist from any such pranks again. Since then she has had no similar attacks.

Such practices amongst ophthalmic patients have often been recorded, but usually the immediate object is obvious—to excite sympathy, to prevent returning to work, or to gain admission to hospital. I recall the case of a young woman who was much crippled with arthritis, and who, besides attending at the electrical department, repeatedly for some years came to my ophthalmic out-patients with "conjunctivitis" which was never at all severe and left no trace. It always got well quickly with boric lotion and mild astringents. On one occasion, as she was leaving the consulting-room, she dropped a small piece of hard dry white soap. She picked it up hastily, but not before I had seen it. On being asked what it was for she made no reply, but turned very red. She had no more conjunctivitis after that day, though I often passed her on her way to and from the electrical department. The inference is almost irresistible that the conjunctivitis was self-inflicted, and that the soap was the agent used.

NOTES ON ONE THOUSAND CASES OF BILHARZIASIS TREATED BY ANTIMONY TARTRATE.

BY

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Our reason for adding still another chapter to the rather numerous articles written on the subject of the treatment of bilharziasis by intravenous injections of antimony tartrate is the fact that up to the present time the conclusions arrived at have been based on the investigation of a comparatively small amount of clinical material, whereas we have been able to avail ourselves of the exceptional opportunities which Egypt affords for making observations on very large numbers of patients.

We can add little fresh information to what has been noted in previous articles on the subject, but with the records before us of 1,000 individuals who have undergone treatment at our hands, we are able to verify what has already been written on the subject, and venture to think that our testimony to the efficacy of the antimony tartrate treatment may be of some value, and a report of the results of the treatment of our first thousand cases of general interest.

Since June, 1919, injections of antimony tartrate in accordance with Dr. Christopherson's observations have been the routine treatment for bilharziasis at the Church Missionary Society's Hospital, Old Cairo, and we are now injecting from fifty to seventy cases a day; both urinary and rectal bilharziasis are being treated, but the former in a much larger proportion.

Dose.

In cases without contraindication the usual method has been to start with 1 grain as the initial dose, increasing by ½ grain at each injection, so that the maximum of 2.5 grains is reached at the fourth injection; this dose is then repeated at all subsequent injections. Injections are given on consecutive days for the first six days, and then on alternate days. The dose is altered in the following cases: Weak men and most women take slightly smaller doses. Children take much smaller doses in proportion to their size and condition. All cases showing much reaction—for example, fever, loss of appetite, etc.—are given smaller doses, and some are given longer periods between injections. It is worth while mentioning that the liberal dosage mentioned above is found necessary in order to cure the disease within a limited period. Our patients, most of them farm labourers, are unwilling to prolong their stay in hospital unduly. On the other hand, it appears that a much smaller and more gradual administration of antimony is equally effective. Quite small doses spread over a considerably longer period appear to cure the disease, the main point being the cumulative effect of about 20 grains of the drug.

Examination.

All cases are submitted to microscopical examination before beginning the course. A re-examination is made after the sixth dose, and subsequently after every dose, and a daily report made with regard to the presence of bilharzia eggs, their condition, and the relative proportion between dead and living eggs in each specimen. When all eggs are found "dead" injections are stopped. The urine is examined again on the two following days, and on three consecutive reports of all eggs being dead the patient is considered free from bilharzial infection. Unfortunately some patients after one report of "all dead" will not stay for further examination. Examinations are made as follows: The urine is allowed to stand for a quarter of an hour, and the deposit pipetted off for examination. If the result is negative the lower layer of the urine in the specimen glass is centrifuged and the deposit examined. Dead eggs are shrivelled and black. No organism is visible in the eggs, and they fail to hatch out on the addition of water.

Rectal cases are more difficult to pronounce free from bilharzial infection, for sometimes eggs do not show for days together. Consequently in these cases we do not usually depend on microscopical examination, but give the full course of twelve doses, amounting to 27 grains of antimony tartrate.

Statistics.

In 1919 (June to December) 370 cases of bilharzial disease were treated, while in 1920 (January to August) our books record 630 cases. Proper records of the first 150 cases in 1919 were not kept, and of the remaining 220 we find that 44, or 20 per cent. of the total number, received less than six injections each. This is not surprising considering that the antimony method of treatment is by no means free from discomfort. Moreover, treatment was abandoned in the case of a few where adverse symptoms, such as marked debility, anorexia, etc., supervened after a

few injections. It may be remarked, however, that many of those who took only a few injections experienced remarkable alleviation of symptoms. Of the remaining 176 cases:

24 had 7 to 9 doses, totalling an average amount of 18 grains.
92 had 10 to 12 doses, totalling an average amount of 25 grains.

Of these, 81 were pronounced cured by the above tests, the majority of them having taken the larger number of doses, that is, an average amount of 25 grains. This means that 81 individuals, or 42 per cent., were proved cured out of 176 who more or less completed the course of treatment. Almost without exception those not pronounced cured were benefited to a very large extent, and the examinations showed a large proportion of dead eggs, but it is not our method to call them "cured" so long as any living eggs appear, or even in the event of no eggs at all being seen. Dr. Christopherson emphasizes this latter point, and we agree strongly as to its importance. Again, the very marked relief of symptoms which many experience is in itself a cause of a certain percentage of patients not persevering in the treatment after the haematuria and general distress have disappeared; thinking themselves cured, they choose to leave hospital without waiting for an examination, or in spite of the fact that living eggs are still demonstrable in the urine.

By 1920 the antimony method had passed the tentative stage, and patients were beginning to seek treatment with greater confidence; consequently the 1920 records show an increasing number of cases and a higher percentage of cures.

Of the 630 cases treated between January and August, 1920, 20.6 per cent. did not take as many as six doses, the continuance of the treatment being contraindicated in a few, while the rest did not persevere. Of the remaining 500:

13 had	6 doses, amounting to	...	...	...	12	grains
57 had	7	,,	,,	...	...	...	14.5	,,
56 had	8	,,	,,	...	...	...	17	,,
138 had	9	,,	,,	...	...	...	19.5	,,
107 had	10	,,	,,	...	...	...	22	,,
70 had	11	,,	,,	...	...	...	24.5	,,
59 had	12 or more doses, amounting to					...	27	,,

Of these 500 we find 348 were pronounced "cured" according to the above definition—that is, nearly 70 per cent. The increase in the proportion cured over the first series is not due to any difference in the treatment or its results, but mainly to the course becoming more popular, and the consequent willingness of a greater number of patients to wait for its conclusion. As far as our experience goes, we find that all cases strong enough to take the treatment become cured if they continue with it; this year's series produced more "cured" with a slightly smaller dose, the desired result being most frequently obtained after nine, ten, or eleven doses, as follows:

After 9 doses 97 were "cured."
After 10 doses 79 were "cured."
After 11 doses 64 were "cured."

These amount to just 70 per cent. of the total number of cured, and this means that the usually effective dose is from 19.5 to 24 grains, and exactly bears out Christopherson's opinion that the dose of antimony tartrate required for an adult is between 20 and 30 grains, and that it is generally nearer 20 than 30 grains.

Mortality.

In the total series of 1,000 cases we had 10 deaths which could in any way be attributed to the treatment or to the disease itself, a proportion of 1 per cent. Six deaths occurred in the first series of 370 patients, and only 4 in the second series of 630 cases. Thus the percentage during 1920 has been considerably reduced. We regard this as very satisfactory when the poor condition of so many of the patients is considered. Not a few of those who apply for treatment are in a very miserable state. In some the kidneys are affected, and the urine shows a very low specific gravity. Eager to grasp at any possibility of cure, it is only fair to give these physical wrecks the chance of recovery. If they stand the injections well these are continued; if they develop bad symptoms the course is abandoned. We attribute the lessened mortality in 1920 to a greater watchfulness and caution in weeding out patients exhibiting marked intolerance for the drug, to more gradual administration, and to a great moderation of dosage in very feeble subjects.

The usual symptoms preceding death are total loss of appetite, extreme debility, and complete apathy. The patient curls up in bed and lives perhaps for some days before the fatal issue. Then a sudden effort, such as rising from bed, is followed by fatal syncope. No death took place immediately after an injection, and usually some days supervened between the last injection administered and the fatal issue. The total amount of antimony administered in several of these cases was very small.

Technique.

As we have to deal with a very large number of cases, it is important that the routine should be as simple as possible and the work reduced to a minimum; this department has been added to the already heavy daily round of a large hospital with all its varied medical and surgical work, without any addition to the staff. An Egyptian orderly has been trained to do all the microscopic work, and all cases are examined by him before beginning the course and again after the sixth and every subsequent injection. He sends in his reports daily to the sister in charge of the section. The latter supplies every patient with a card on which is marked his name, number, and the date and amount of each dose; all this is also noted in her book of records together with notes concerning the presence in the urine of bilharzia eggs, blood, pus, the urinary specific gravity, etc. Each morning, before the arrival of the doctor, she marks all the cards for that day and the patients are lined up. Any doubtful cases are reserved for further inspection. The antimony tartrate is supplied in tablets for solution, especially made by Messrs. Parke, Davis and Co., containing 10 grains each. From these a sterile solution is made containing 1 grain in 20 minims. This is dropped from a drop bottle into a sterile cup and further diluted to make up about 10 c.cm., which is then ready to be drawn up into the syringe. A 10 c.cm. glass syringe is used, with two or three needles. All the apparatus is boiled before commencing work. After each injection sterile water is drawn up into the syringe, which is then rinsed out and the needle is removed and immersed in a glass of rectified spirit.

The patient holds up his record card, the sister measures out the doses indicated thereon, and the doctor draws up the solution into the cleansed syringe and adjusts a needle. The patient sits on a chair with his arm extended on a table and his fist clenched. An Egyptian orderly firmly compresses the upper arm with one hand and strokes up the forearm with the other; he paints iodine on the bend of the elbow, and the doctor injects into a prominent vein, the orderly releasing his pressure, and the patient opening his hand. After injection no bandage or dressing is used, but the patient holds his arm up for about five minutes. In this way we inject patients daily at the rate of more than sixty an hour. Occasionally some patients, more especially women and children, have very indistinct veins, and in such cases some trouble is experienced now and again in finding the lumen of the vessel, but fortunately these are few in number. Great care is taken not to let any fluid escape into the tissues. Should this accident occur, the patient feels it at once and says so. If only a drop or two escapes a painful arm results, necessitating the application of fomentations, etc. In the early months we had several such mishaps, one or two causing local abscesses, but now with increased practice we very rarely get any trouble at all.

It has been questioned whether our sterilization is sufficient, especially in that we do not boil the syringe after each injection; but taking into consideration the nature of the fluid injected and the immersion of the needles in spirit before each operation, the method is regarded as adequate. Moreover, in the whole series no case has exhibited the slightest sign of sepsis from faulty sterilization.

Accommodation for Patients.

The majority of those taking the antimony course are in-patients, some of them occupying beds, but the larger number lying on mats in our large open-air "anaemia pavilions." The reason for this is that most of them also suffer from ankylostomiasis, and are being treated for that ailment at the same time. The injections are not begun until two days have elapsed after the patient's first dose of chenopodium oil or thymol with the accompanying fasting, etc., and likewise they have a few days' rest before the

subsequent doses of these parasiticides. A considerable number, however, take the antimony course as out-patients, attending hospital regularly for their injections.

Complications.

Many patients have complications due to the disease, which are appropriately dealt with. Vesical calculus is treated by lithotrity or suprapubic cystotomy, the injections being continued. Bilharzial growths of the perineum, often resulting in urinary fistulae, are treated by operation in addition to injections. It is remarkable to notice the influence of the injections on the healing of these fistulae; down to a year ago they used to be our most chronic cases, often taking months to heal up after operation. Now the average case heals in about twenty days. Rectal cases showing friable, cauliflower tumours of the mucous membrane, many of considerable size, are treated by ligature, and in the case of small growths by removing as much as possible by scraping with the finger-nail and swabbing with zinc chloride solution. Again, the influence of the injections on these growths is very marked, as many of them quite disappear in a comparatively short time after scraping. Previously two or three operations were necessary. As regards other complicating conditions a very large proportion of the cases, as mentioned above, also suffer from ankylostomiasis, and a considerable number have pellagra. Nephritis is observed occasionally, and in several weak patients with this complication the treatment had to be abandoned.

Late Results.

In a country like Egypt it is always very difficult to follow up cases and to get satisfactory statistics, but we have inspected several patients some months after treatment who testify to the complete relief of all symptoms. Microscopical examination, moreover, still shows only "dead" eggs. The same result is found in several of our own workers who took the course a year ago. In no case have we seen living eggs reappear after completing a successful course, though obviously this might be possible owing to reinfection.

CONCLUSIONS.

1. The results of the antimony treatment on a large scale bear out in a remarkable way the findings of those who have recently written on the subject, and especially of Christopherson, to whose original research is due the fact that bilharziasis need no longer be regarded as an incurable ailment.

2. As most ordinary patients are unwilling or unable to make a protracted stay in hospital, it is necessary to hasten the antimony course and thus give liberal doses; yet in cases where it is possible we urge a more gradual administration of the drug, and in this way we believe risk will be reduced to a minimum, while the eventual cure will be as surely effected; 20 to 25 grains of antimony tartrate is, in our experience, the average amount required to effect a cure. While a less toxic substance than antimony tartrate would be welcomed, we are persuaded that its toxic effects can be largely eliminated by cautious administration.

3. To reduce the mortality a very careful investigation of cases is necessary. "Rests" should be given on the occurrence of any untoward symptoms, the dose lessened at the least indication, and the course immediately abandoned in cases showing marked intolerance.

4. The above technique is recommended as being simple and rapid where large numbers of patients are to be dealt with, as, for instance, when any attempt is made to eradicate the disease in infected districts.

5. It is noteworthy that the successful surgical treatment of complications dependent on bilharziasis, such as urinary fistulae and rectal papillomata, is enormously facilitated by the elimination of the causative factor.

THE third annual meeting of the Board of Governors of the League of Red Cross Societies will be held in Geneva on March 28th. The Board contains representatives of the Red Cross of the United States, Great Britain, Australia, France, Italy, Japan, Spain, Sweden, Brazil, Switzerland, Argentina, Belgium, Denmark, and Serbia. The chairman is Mr. Henry P. Davison, of the American Red Cross, and the vice-chairman the Director of the League, Sir David Henderson.

STENOSIS AT THE INTERNAL MEATUS AFTER SUPRAPUBIC PROSTATECTOMY.

BY

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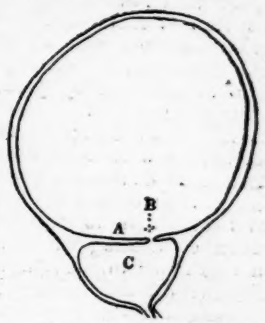
ALTHOUGH Freyer's operation of suprapubic prostatectomy, correctly performed, is rarely followed by serious after-effects, a recent article by Thomson Walker[1] shows that stenosis at the vesico-prostatic orifice is not a very uncommon occurrence. In a certain proportion of cases after prostatectomy it is difficult or impossible to pass a catheter into the cavity of the bladder, even when the patient does not complain of any difficulty in micturition. The instrument hitches against a diaphragm roofing the remains of the cavity once occupied by the prostate. The point of the instrument can be moved more or less freely in a space in front of the rectum and behind the bladder, and the injection of fluid, unless very slowly performed, is apt to give rise to pain. The fluid, however, if slowly injected, may find its way into the bladder. The difficulty in introducing the catheter is due, first, to the absence of the guidance of the prostatic urethra, and, second, to the fact that the vesical orifice of the prostatic cavity is not in alignment with the direction of the urethra. It is, in fact, difficult to hit off with the point of the catheter the vesico-prostatic opening. If, in addition, this opening has contracted, the difficulties are much increased. (See B, in diagram).



A, Vesico-prostatic septum. B, Stenosis of vesical orifice. C, Prostatic cavity.

The following are illustrative cases:

CASE I.

In July, 1914, I removed an enlarged prostate and a villous growth in a patient aged 70 years. In November of the same year he returned, as directed, for cystoscopic examination to ascertain if any recurrence of the villous growth had taken place. I found it impossible to introduce the cystoscope, though the patient denied any difficulty in micturition. After trying several catheters and dilators I was able to pass a small instrument and to dilate gradually the internal opening sufficiently to admit the cystoscope and destroy with the high frequency current a commencing papilloma. In December of the same year I again had difficulty in dilating him sufficiently to pass the cystoscope. In September, 1915, I passed the cystoscope once more, and again destroyed a small papillomatous bud. Immediately after this I went abroad and did not see the patient again, but I ascertained that he remained well until his death from apoplexy in September, 1919, at the age of 75.

CASE II.

In April, 1919, I removed an enlarged prostate in a patient aged 61 years. Fourteen days after his operation he could hold his water for six hours and pass it in a vigorous stream. In May the suprapubic wound began to leak, and I attempted to pass an instrument into the bladder, but only succeeded in getting in a fine catheter. The wound healed in a few days and remained firm until June, when it again leaked for a few days. I saw him subsequently for cystitis, and tried to pass a catheter to wash out his bladder, but failed absolutely. As his symptoms were slight he refused to have anything further done. I have seen him several times since, and he informs me that he is passing water freely and without pain.

CASE III.

A third case gave me a good deal of trouble. The patient was aged 64 years. I removed his prostate in May, 1919. He passed urine on the twenty-sixth day, but leaked a little from the suprapubic wound on micturition for a fortnight after. From this on his wound was dry, and he left the nursing home apparently well on the road to recovery. It was evident, however, as time went on that he had not obtained the usual relief from prostatectomy. He complained of frequency and pain, passing small quantities of water at a time with much difficulty and straining. The urine contained a good deal of pus. In March, 1920, an attempt was made to pass an instrument to wash out his bladder. All kinds and shapes of catheters and dilators were used, but none of them could be got to enter the bladder. Fluid injected at the meatus was tolerated, and disappeared, presumably into the bladder. On March 19th, 1920, cystotomy was performed through the suprapubic scar. The bladder was empty. The prostatic cavity was roofed over by a

membrane in which could be felt and seen a small umbilicated opening in the middle line anteriorly, admitting an ordinary probe (see B in diagram). The prostatic tent-like roof was slit from before back in the middle line. As the incision was prolonged backwards it was found that the septum became thicker as it passed back to become continuous with the bladder wall. When the operation was completed there was a deep and wide sulcus bisecting the base of the bladder and throwing the prostatic and vesical cavities into one. A drain was inserted and the bladder irrigated daily. On April 2nd the wound was dry, and the patient was able to pass water in a good stream. On May 7th a full-sized dilator passed easily into the bladder.

In order to avoid this complication I have recently taken the precaution of slitting posteriorly with scissors the vesico-prostatic septum as far as its junction with the bladder wall immediately after removal of the prostate. This step is facilitated by grasping the margin of the septum on each side of the middle line with Lane's tissue forceps and cutting between. If the line of incision is clamped by pressure forceps before cutting, bleeding is avoided.

It might be desirable to pass full-sized dilators at intervals for a time in cases in which this complication is suspected and has not been provided for at the primary operation. Thomson Walker, in the article referred to, draws attention to this obstruction, and describes a method of dealing with it. He also extends the operation of Freyer to prevent its occurrence by removing a wedge with the base forwards, from the posterior lip of the prostato-vesical opening.

I am indebted to Mr. R. H. Hunter for the accompanying diagram.

REFERENCE.

[1] Thomson Walker: Haemorrhage and Post-operative Obstruction in Suprapubic Prostatectomy, *Brit. Journ. Surg.*, vol. vii, No. 28, April, 1920.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

HERPES AND VARICELLA.

THE following series of cases apparently proves that varicella can be contracted from a patient suffering from herpes, and vice versa.

Just before Christmas a school child was brought to me suffering from herpes on the thigh and buttock. On January 10th and following days several cases of varicella occurred in the village among school children.

On January 17th I was called to see a man aged 35 with supraorbital herpes. Several other children went sick with varicella about February 1st.

On February 10th I saw a man with occipital herpes. There was another batch of children down with varicella on February 14th, and this morning (February 19th) yet another man came to the surgery with supraorbital herpes.

So far as I can make out none of the patients with herpes can have contracted it directly from either of the other patients with herpes, and varicella has apparently acted as a connecting link between them.

The population of the village is only about 1,000, so the occurrence of four cases of herpes at about the same time is unlikely unless it is to some degree infectious.

Stokenchurch, Bucks. E. L. ELLIOTT, M.B., B.S.Lond.

CONCURRENT HERPES ZOSTER AND VARICELLA.

ON November 10th, 1920, I was asked to see, in consultation, a medical student, aged 22 years, who was suffering from herpes involving the upper branches of the right fifth cranial nerve. The history of the case was that on October 31st he began to suffer from intense neuralgic pain in the right side of the forehead and scalp and in the right eye. On November 6th herpetic vesicles appeared on the forehead and scalp over the skin area supplied by the ophthalmic division of the right fifth cranial nerve, and the pain was now so severe as to prevent him from sleeping, and at the same time evidently much diminishing his self-control. I ordered him some butyl-chloral hydrate as a sedative, and, seeing him again the following day, found that herpetic vesicles had appeared on the skin supplied by the same division of the fifth left cranial nerve. On November 12th, that is, six days after the initial herpetic eruption, a generalized varicellar eruption came out on the trunk, upper and lower limbs. There was no pain from the new eruption, and it disappeared in about six days, leaving no scars, whilst the initial vesicles took a further fourteen days to heal, leaving extensive scarring of the right side of the forehead.

ROWLAND HILL, M.D., M.R.C.P.Lond.,
Assistant Physician, Belfast Hospital for Sick Children.

TREATMENT OF LOCAL LEISHMANIASIS.

WITH regard to Colonel Erskine Risk's treatment of Delhi boils with solid caustic potash, noted in the JOURNAL for February 19th, p. 267, I may state that I have used Loeffler's methylene blue with favourable results in this affection. Loeffler's methylene blue has a small quantity of caustic potash (KOH) in it, and I suppose this ingredient was the curative agent. Painting this blue solution over the sores twice a day proved efficacious in a week. The use of solid caustic potash on the face anywhere near the eye might be fraught with discomfort if not with danger.

C. DONOVAN,
Faringdon, Berks. Lieut.-Colonel I.M.S.(ret.).

A BULLET IN THE CAUDA EQUINA.

THE following case seems worthy of record because of the site of injury, the safe removal of a foreign body from such a delicate situation, and the comparatively slight symptoms produced during a period of five years.

Pensioner E. was admitted to the Ministry of Pensions Hospital, Neath, with a history of a gunshot wound of the left buttock. He complained of swelling in the feet, with numbness and inability to bend down owing to pain in the back. His history showed that in April, 1915, he received a wound in the buttock while in charge of a party leaving a front line trench, and he fell over some barbed wire, his legs having "given way." He remained there some hours before being moved to the casualty clearing station. From there he was sent to Bethune and later to Boulogne, where, he states, he was unconscious for several days. On recovery he was sent to England "suffering severely in the back," and in due course he was discharged as unfit in September, 1915. From this time to 1917 he was able to get about fairly well walking with sticks, but with occasional attacks of pain and numbness, especially in the left leg. Late in 1917 he commenced light work which he continued until admitted to this hospital in October, 1920. *X* rays revealed a foreign body lying in or around the spinal canal, at the level of the interspace between the third and fourth lumbar vertebrae, and at an approximate depth of 2 in. from the skin. As the pressure symptoms were becoming more marked Major Alwyn-Smith, D.S.O., F.R.C.S., visiting orthopaedic surgeon, decided to operate. When the spines of the third and fourth lumbar vertebrae were removed dense scar tissue was found around the laminae. The latter were removed very carefully by chisel owing to the depth of the wound and its limited extent, and haemorrhage, at times free, was controlled by packs of adrenalin. The dura mater now exposed was found thickened by an annular mass of scar tissue, which was dissected off and the dura incised. A small quantity of cerebro-spinal fluid escaped, necessitating rapid elevation of the foot of the operating table. On palpation the cauda equina was found to be hard, and had a resistant feeling which was evidently due to some foreign body lying within. Further cautious dissection revealed a bullet lying longitudinally, apex upwards, embedded in scar tissue. This foreign body was removed from the cauda equina, the dura stitched, and the operation completed. No untoward symptoms or signs arose, and the wound healed rapidly. In a few days a plaster spinal jacket was applied, and this was worn for six weeks. The patient was discharged well, with all movements normal, and with no loss of sensation.

I am indebted to Major Howard, medical superintendent, for permission to publish this case.

D. H. VICKERY,
Senior R.M.O., Ministry of Pensions Hospital, Neath, Glam.

IT was reported to the London County Council on February 8th that during the three months ending with September last 360 samples of milk from twenty-four English counties were taken at London railway stations, and 15 (or 4.16 per cent.) proved to be tuberculous. Of 608 cows at twelve farms situated outside the county of London which were examined by the Council's veterinary inspector, 13 were found to be affected with generalized tuberculosis. The usual arrangements were made with the farmers for the disposal of these animals.

Reports of Societies.

SKIN DISEASE: ITS RELATION TO INTERNAL DISORDER.

A DISCUSSION on skin disease in its relation to internal disorder took place at the Medical Society of London on February 14th. Sir F. W. MOTT presided.

Sir JAMES GALLOWAY, in the course of his opening paper, spoke in the first place of the erythema group of cutaneous affections. The special eruptions of the acute exanthematous diseases seemed most probably to result from the direct action of the infecting elements, protozoal or bacterial, on the skin. The considerations which led to this conclusion were the distinctive character of the eruptions in each disease, and the fact that in certain of the diseases the organism recognized as the cause of the disease had actually been found in the exanthem. Special opportunities had arisen for the careful study of erythematous reactions as a result of the use of alien antitoxic serums in the treatment of certain of the infective fevers. Variations from the normal reaction occurred, due to what was apparently the increased or the diminished sensibility to the action of the alien protein. Two facts stood out clearly for recognition from the clinical point of view: (1) as a result of absorption of proteins alien to the invaded organism, eruptions made their appearance closely similar to the erythema group of skin diseases; (2) these eruptions varied in degree, severity, and time of incidence, the variations depending on stages of increased or diminished sensibility which might be acquired by artificial methods. The speaker then dealt in particular with erythema exudativum. His conclusion was that general or focal infections were capable of admitting toxins into the body which produced destructive influences, and also that substances resembling more closely the alien proteins producing the protein reactions—serum sickness and analogous conditions—might find their way into the circulation in visceral disease. Erythema nodosum he thought might be a "true" eruption, the manifestation of a specific circulating poison producing local damage, just as the special eruptions of the specific fevers. Lupus erythematosus was thought by some to be caused by the absorption of toxins from chronic tuberculous foci, though the disease occurred sometimes in its most widespread and dangerous manifestations where there was no evidence or suspicion of tuberculosis in the ordinary sense. In herpes gestationis he thought it fair to assume that the embryonal cells and their products might act as an alien protein. Diseases of the skin associated with functional disturbance of the blood vessels required much further observation before their causes could be understood, though disease of the blood vessels causing obstruction to the supply or return of the blood produced more easily understood changes from malnutrition, secondary pyogenic infection, and necrosis. The nervous system, both central and peripheral, had long been held responsible for influencing disease of the skin, but it was not easy to trace the actual influence, even when it might be strongly suspected in individual cases. The most interesting instance of close relationship was in herpes zoster, which had directly to do with a peculiar, often haemorrhagic, inflammation of the posterior root of the ganglia of the spinal cord and the analogous ganglionic structures, but the series of cutaneous reactions and injuries associated with disease of the spinal cord and brain were not so easy of explanation. Finally, Sir James Galloway dealt with the relationship of the skin to disorders of the abdominal and other viscera. He spoke of it as a matter of surprise, considering the close physiological relationship between the kidneys and the skin, that disease of the kidney was not more often accompanied by skin manifestations. There were very few examples of skin outbursts occurring in the course of "Bright's disease." It was not infrequent to find a record of albuminuria, haematuria, and nephritis in cases of erythema multiforme; but the presumption in such cases was that the cutaneous disease and the renal disorder were manifestations of the same toxic cause. Many remarkable manifestations on the skin occurred during the course of disorders of metabolism. It seemed that in glycosuria and allied conditions substances derived from the imperfect metabolism of the fats might be deposited at certain vulnerable points in the body, and by their presence produce local irritation and multiplication of the connective tissue cells; or, on the other hand, that poisons due to metabolic errors might damage these areas, and that the lipoid substances were formed locally in consequence, and aided in the production of the characteristic nodule in, for example, xanthoma. Lichen planus seemed to occur with undue facility in persons suffering from glycosuria and allied disorders of nutrition. Sir James Galloway concluded with a reference to lymphatic leukaemia and to Hodgkin's disease, in both of which similar phenomena affected the skin, taking the form in both cases either of tumours or of remarkable pruriginous reactions without definite tumour formation. The evidence seemed to point strongly in both cases to the infective origin of the classes of disease of which these two conditions were examples.

Dr. ARTHUR HALL (Sheffield) dealt with the functions of the skin as a surface organ, which, he said, except as a heat-regulating mechanism, played no obvious part in the general metabolism of the internal organs. The importance of the relation to the skin of things outside the body quite outweighed the importance of the relation of the skin to the domestic functions of the body; the skin was a coastguard rather than a part of the merchant service. If the individuality of the skin as an organ were kept in mind, greater progress in knowledge would be made than if the skin were regarded as a kind of screen upon which the clinician could view what was going on in the organs beneath. He believed that many changes in the skin now attributed to internal disorders were capable of explanation as natural reactions of the skin to definite stimuli, and though there were many skin affections which obviously were due to internal disorders—the rashes of the exanthemata, for instance—even there the individuality of the skin could not be overlooked. A list of so called skin diseases due to changes within the body could easily be drawn up, and would not be very long; a similar list of affections due to causes from without would be longer, but a considerable list of skin diseases would still remain unclassified, and these would include many common affections, amongst them many of the conditions once called eczema. In trying to ascertain the truth with regard to these, the part which the skin itself played must always be borne in mind. It was often noticed that a patient who was being treated for some trivial local eruption suddenly developed a widespread acute weeping dermatitis; this followed usually from the application of some new material to the skin, often of apparently harmless character. In his view, the acute outbreak did not depend solely upon the material applied, but upon the susceptibility of the individual—upon his neuro-cutaneous reaction to that particular material. Such irritants as primula or phenylhydrazin were not universally irritating; most people could handle them with safety, yet in those whose skins were susceptible the violence and extent of the reaction went far beyond the duration or extent of contact. He gave a history of an interesting case in point. This type of skin reaction to some particular substance was more common than was thought, and there was something more about it than the anaphylactic phenomenon. But our knowledge of the defensive reactions of the skin was not yet sufficient to permit of very definite conclusions.

Dr. E. W. GOODALL took up the question of anaphylaxis. There were some, he said, who held that an attack of an acute infectious disease was an anaphylactic reaction; in his own view an attack of an acute infectious disease was neither an anaphylactic phenomenon, nor was it brought about in exactly the same way as an attack of serum sickness. The symptoms of an acute specific infectious disease were due to two main causes—a special toxin and the common protein cleavage product.

Dr. E. GRAHAM LITTLE referred in particular to lupus erythematosus. He was reluctant to accept a tuberculous causation of this disease, chiefly on the ground of what he had seen in children. He had never seen any evidence of this association among the patients in a large children's hospital, where many tuberculous children were received.

Dr. H. W. BARBER agreed with Dr. Graham Little in thinking that there was no definite evidence of tuberculous causation of lupus erythematosus. Certain cases exhibited stigmata which were supposed to indicate—and probably did indicate—an infection with tubercle in early life, and

cases had been published in which the acute form of lupus erythematosus had been associated with active phthisis or even general tuberculosis. But, speaking of his own cases, in not a single one had he found any evidence of active tubercle. In all his cases he had recovered the virulent long chain streptococcus, sometimes in pure culture. The primary foci were usually the teeth or tonsils, sometimes the nasal sinuses. There was a very close relationship between lupus erythematosus and rheumatoid arthritis.

Dr. H. G. ADAMSON said that a great many skin diseases which were formerly supposed to be due to internal disorders were now discovered to be the result of external causes entirely. Even scabies and ringworm were at one time thought to have an internal cause. Not all skin diseases were external in origin, of course; some were due to micro-organisms brought to the skin by the blood stream from internal affections, as in syphilis and the specific fevers, and others were due to toxins similarly brought. But for the most part the cause of the skin condition was the cause of the bodily disorder; the rash of measles, for example, was due to the micro-organism which caused measles, and not to the disease itself.

Dr. J. M. H. MACLEOD thought that the help of the physiological chemist would have to be enlisted more and more in endeavouring to trace these subtle foreign proteins or antibodies that were responsible for one or other toxic rash. It seemed to him that just as the skin was an important and essential organ of the body, linked up directly or indirectly in its perfect function with every other organ, so any diseased condition of any other organ, if it went on long enough, was liable to be associated with a disorder of the skin; and, on the other hand, any diseased condition of the skin, however local its etiology, was liable to be influenced more or less profoundly by the general internal state.

Dr. H. MACCORMAC said that it was not always realized that even local skin affections might also depend upon some general condition. Even in ringworm of the hair of the scalp, the process died out spontaneously at puberty, so that there was evidence of some change in the tissues caused by some condition of which they could have no microscopic or other evidence. He referred also to a vitamine-deficiency disease from which the Eskimos suffered during the absence of fresh seal meat from their diet; it consisted of an eruption in various parts of the body, pustular in type, and very irritating, but disappearing when the food supply became normal. There one got a pustular infection of the skin which could only arise from a profound change in the tissues.

Sir F. W. MOTT, in closing the meeting, said that the question of anaphylaxis was one on which he would have liked to have spoken, but for the lateness of the hour. The French looked upon this phenomenon as "a dislocation of the static equilibrium of the colloids."

TREATMENT BY X RAYS AND RADIUM.

AT a meeting of the Edinburgh Medico-Chirurgical Society on February 2nd, Emeritus Professor F. M. CAIRD presiding, Dr. R. KNOX (London) opened a discussion on treatment by *x* rays and radium. After dealing with physical data, the technique of application, the measurement of doses, etc., he discussed the results of radiation treatment in clinical conditions. Superficial lesions of the skin were the earliest to be treated, and remained still the most favourable in results. It was the best treatment for tinea capitis, though permanent baldness resulted in a few cases. In rodent ulcer radium was better than *x* rays, which perhaps explained the lesser frequency of relapse in later cases. Most of the early cases did well at first, but sooner or later relapsed, and then resisted radiation. Lupus vulgaris sometimes gave good results, but here regulation of doses was necessary to avoid the real danger of lupous carcinoma. Hyperidrosis was readily controlled. The blood and body fluids were profoundly affected by radium and *x* rays. In leukaemia the immediate effect was striking, in reduction of the spleen and of the leucocyte count; but though the disease might be controlled for years, the final result was nearly always relapse. In this disease, as in Banti's disease, radium was better than *x* rays. In exophthalmic goitre radium should be given at the bedside, but combined with rest and drugs. In conditions of lymphatic glands, simple inflammation and lymphadenoma rapidly responded; so also sarcoma, but with later relapse; with tubercle and carcinoma the response was slow. In fibromyomata of the uterus the tumours never disappeared; they were often reduced by a third or a half, and even where the reduction was not appreciable there might be great improvement in health from the cessation of haemorrhage and from effects upon ovaries and blood. A proportion of these cases were not benefited by radiation treatment. In carcinoma of the breast he advised a preliminary radiation before operation, and after it thorough treatment of the operation and drainage areas. Some of the cases of early recurrence were also amenable, while certain inoperable cases after *x*-ray treatment became operable. Other benefits in bad cases were the healing of ulcerated areas and the relief of pain. In uterine cancer a combination of local radium treatment and of *x* rays applied externally was advised. He concluded by forecasting an early improvement in technique, enabling *x* rays of greater penetrative power to be used, and by pleading for closer co-operation between the clinician and the radiologist.

Professor ALEXIS THOMSON gave some personal experiences with radium in malignant tumours. It could not be trusted alone, and even when there was an apparent disappearance of the tumour he advised operation. Also relapsing tumours seemed to be immune to radium action. A good rule was in operable tumours to operate and insert radium, and in inoperable tumours to attempt to render them operable by radium. Of the sarcomata, the lymphosarcoma was most amenable to treatment. Dr. CRANSTON LOW said that *x* rays had revolutionized the treatment of ringworm; only 1 per cent. of the cases developed permanent alopecia; by its means ringworm epidemics could be controlled, while in Edinburgh favus had been reduced to sporadic occurrence. With rodent ulcer, radium was better than *x* rays, and the aim was to give the maximum dose in the shortest time that the skin could stand. In lupus the administration of *x* rays must be done with care so as to avoid overstimulation of the tissues and the production of a lupous carcinoma. Professor GULLAND said that in myelogenous leukaemia his later results with radium were better than with *x* rays. There was danger that excessive dosage might produce pernicious anaemia, and he advised that the reduction of leucocytes should not be carried below 20,000 per cubic millimetre, as reduction continued for some weeks after the last treatment. The same caution was necessary in exophthalmic goitre, where also radium was superior to *x* rays. In Banti's disease, though great reduction in the spleen took place, there was no absolute cure by radium, and splenectomy was necessary.

Professor Sir HAROLD STILES said that he preferred radium to operation in lymphadenoma. In cancer of the rectum and colon he advised that if there was any doubt as to complete removal, radium should be left at the site of operation. There was need of experimental investigation of radium, and of more precise knowledge of its action upon living tissue and of its dosage. Dr. HOPE FOWLER pointed out that radium treatment was particularly suited for those damaged by *x* rays. There was need of careful regular blood examination in irradiated patients. Lymphatic tissues were more amenable to radiation than epithelial.

Dr. NORMAN WALKER thought that Dr. Knox had been too pessimistic about the *x*-ray treatment of ringworm. There was no doubt that lupous carcinoma had greatly increased since the use of *x* rays, and that this treatment carried a serious risk of this complication. Mycosis fungoides showed great benefit under *x*-ray treatment. Indiscriminate *x*-ray treatment for superfluous hair in women often produced bad end-results in atrophy of the skin and lymphangiectasis. Dr. LOGAN TURNER said there was need of apparatus that would allow of the application of radiation to growths in concealed cavities such as the larynx. Mr. D. GREIG spoke of the failures of this treatment, and cited cases of mycosis fungoides as instances. He deprecated undue optimism.

PROFESSOR RÖNTGEN has been elected a doctor *honoris causâ* by the Frankfort Faculty of Natural Science.

PROFESSOR HUTINEL, who recently resigned his professorship of children's diseases in the University of Paris, has been succeeded by Dr. P. Nobécourt.

Reviews.

INSTINCT AND THE UNCONSCIOUS.

IN *Instinct and the Unconscious*,[1] by Dr. W. H. R. RIVERS, the psychologist and psycho-pathologist will find a work which well repays the most careful study. It opens up new lines of thought, and may be said to meet a definite need. During the last few years remarkable advances have been made in psychology, and the progress which has taken place is in a large measure due to the contributions made by the psycho-pathologist in daily contact with the practical problems of the clinic. The time would now seem to have come, however, when the dogmas, theories, concepts, and terminology of clinical psychology should be subjected to the closest scrutiny. The whole subject needs to be hardened and clarified; it needs constructive criticism, wider view-points, and minute and careful observations. Especially must the endeavour be made to interpret abnormal reactions in terms applicable to the organism as a whole. The facts of clinical psychology need to be harmonized with the whole body of biological and physiological knowledge and to be expressed in the special language of science, because it is only in this way that psycho-pathology can be extricated from the narrow circle of repetitions into which it would seem to be in danger of falling. Such an aim is most likely to be achieved, not by the clinician, who is naturally largely preoccupied by therapeutic considerations, but by the trained psychologist and scientific observer who is in a position to interpret facts with more detachment and with a wider range of knowledge. It is from this wider outlook that Dr. Rivers approaches the problems of mental functioning, and his book may be regarded as a contribution of definite value, and as a real addition to our knowledge of the subject with which it deals.

The expressed aim of the book is to develop a biological view of the psycho-neuroses, and the endeavour is made to bring functional disturbances of the mind and nervous system into relation with the concepts concerning their normal modes of working which are held by the biologist and physiologist. Dr. Rivers sets himself more particularly to consider the general biological function of the process by which experience passes into the region of the unconscious. This process he calls *suppression*, and he takes the view that this process occurs—especially as the result of physical and mental shock—without the intervention of volition, and that it is to be regarded as an active and especially complete form of forgetting. He limits the content of the unconscious to experiences of this kind which are not capable of being brought into the field of consciousness by the ordinary processes of memory or association. The relation between suppression of psychological experiences and certain physiological phenomena is next considered, and it is shown by reference to the work of Head, Rivers and Sherren in respect to protopathic and epicritic sensibility that in the former mode of cutaneous sensibility we find evidence of suppression at the physiological level analogous to that which occurs at the psychical level. The argument is thus developed that suppression of conscious experience is only one example of a process which applies throughout the whole of the animal kingdom, and is essential to the proper regulation of every form of human and animal activity. Every living process of the animal involves, not only activity directed to a special end, but also the inhibition of tendencies to activities of other kinds. Thus suppression is to be regarded as only one aspect of the universal physiological property of inhibition.

In chapters on "The content of the unconscious," "The nature of instinct," "The danger instincts," "Suppression and the all-or-none principle," and "Instinct and suppression," Dr. Rivers develops smoothly and consistently his central contention that the same biological principles are operative at the psychological levels of development as at the sensori-motor and reflex levels of activity. The treatment of these subjects is most suggestive and full of interest. As an example may be cited a subject upon which Dr. Rivers lays particular emphasis, namely, the protective reaction to danger by means of immobility. In suggesting that hysterical symptoms—paralyses, mutism, anaesthesias—are modified forms of this instinct he has undoubtedly brought into prominence a point of view of considerable significance, and one which might be utilized for the elucidation of other forms of abnormal reactions. His views would seem to be particularly applicable to the negativistic behaviour which is such a prominent feature in cases of dementia praecox. The thought suggests itself that we here find a much purer form of the instinct of immobility than that found in the hysteric. This is to be expected, as the reactions in dementia praecox are extremely primitive in character and expressive of a much deeper stage of regression than are those of hysteria. In the "death feint" the threatened animal can be pushed about and rolled over without any apparent response—a state of affairs which is almost paralleled in the postures, tensions, and attitudes of many katatonic cases. The negativism in dementia praecox may thus be regarded as a biological protective reaction which guards the patient, not from physical danger, as in the case of the immobile animal, but from undesired intrusions into his inner mental life.

In subsequent chapters Dr. Rivers deals with "dissociation," "the complex," "suggestion," "hypnotism," "sleep," "hysteria," "sublimation," and "regression." It is, of course, outside the scope of a review to discuss his treatment of these subjects, but some brief reference may perhaps be made to the views which Dr. Rivers has formulated in regard to Freud's psychology. His attitude is developed more fully in the appendix to this volume, which contains two articles entitled respectively "Freud's psychology of the unconscious" and "Freud's conception of the *censorship*." There is no doubt a very large measure of truth in Dr. Rivers's view that Freud's theories have been pushed by their advocates beyond the position they are entitled to hold, with the result that, failing to fulfil the expectations thus aroused, their merits may be underestimated, or even be in danger of being thrust into the limbo reserved for dead hypotheses, only to be rescued therefrom by some later generation. He is probably correct, moreover, in suggesting that the excessive absorption in the sexual determinants of human reactions which characterizes the followers of Freud is to a large extent a reaction from the timidity and prudery of the past in relation to sexual matters, and is a protest against the ignorance of this side of life which often exists. One outstanding merit of Freud's psychology, as Dr. Rivers recognizes, is the emphasis he has laid on the fact that human reactions, both normal and morbid, are determined by the totality of the individual experience as well as that of the ancestral or racial experience; not only has he recognized this fact, but he has devised methods which, when judiciously used, are of considerable practical utility, for by means of them the historical past of the individual may be brought to light.

As indicated above, Dr. Rivers devotes considerable attention to the vexed question of the censor—a concept which bulks so largely in Freud's psychology. This concept of an anthropomorphic entity, itself unconscious, standing between the true unconscious and preconscious, is artificial and obviously needs further examination. Dr. Rivers contends that a concept which is based on analogy with a highly complex and specialized institution should be capable of being expressed in some other and more satisfying form. He maintains that it is to physiology rather than sociology that we should look for the clue to the nature of the process by which a person is guarded from the intrusion of disturbing elements of his unconscious experience, and he proceeds to develop a view which harmonizes with the biological principles maintained throughout the book. Assuming the organization in the unconscious of a functional hierarchy such as exists in the nervous system, he goes on to show in regard to dreams that the relaxation of conscious control in sleep must result in the emergence of mental activities identical in form and structure with the thoughts, feelings, and conduct peculiar to the infantile stage of mental development. This is not the place to either epitomize or discuss the views which Dr. Rivers brings forward. It may be said, however, that they are highly suggestive and appear to afford a better explanation of the effortless mental activity

[1] *Instinct and the Unconscious*. A Contribution to a Biological Theory of the Psycho-neuroses. By W. H. R. Rivers, M.D., D.Sc., LL.D., F.R.S. Cambridge: University Press. 1920. (Demy 8vo, pp. 260. 16s. net.)

which may be assumed to accompany the repose of the psycho-physical organism during sleep, than does the concept of the censorship with its suggestion of strain, vigilance, and tension.

In addition to the papers above mentioned, the appendix contains reprints of several articles by Dr. Rivers relevant to the subjects dealt with in the first part of the book. We notice a rather unusual number of mistakes in printing, and the first sentence on page 232 is in a particularly unhappy condition.

Dr. Rivers has written a most interesting book, and one which we can unreservedly recommend to our readers.

THE MEDICAL TREATMENT OF EXOPHTHALMIC GOITRE.

IN *Exophthalmic Goitre and Its Non-Surgical Treatment* Dr. ISRAEL BRAM,[2] who is instructor in clinical medicine under Professor Solomon Solis-Cohen at the Jefferson Medical College, Philadelphia, insists with no uncertain voice that operative treatment of the thyroid is futile in primary hyperplastic goitre of Graves's disease, and that nearly every such case, if not moribund, is curable by non-surgical means of one kind or another. While condemning operations on the thyroid in primary exophthalmic goitre Dr. Bram frankly admits that removal of nasal polypi, adenoids and diseased tonsils, a chronically inflamed "controlling" appendix, or an affected portion of the female pelvic organs, may cure hyperthyroidism; and further he approves operation on a simple non-toxic goitre of some standing on which symptoms of Graves's disease have recently been superimposed. After a full account of the various opinions held as to the pathogenesis, and after numerous quotations from McCarrison, Crile, and others, the conclusion is reached that both simple and toxic goitres depend upon factors outside the thyroid. The analogy of appendectomy which has been urged in favour of thyroidectomy in Graves's disease does not hold good; for appendicitis is a local disease which reflexly produces symptoms, whereas exophthalmic goitre is secondary in etiology.

As the possible causes and manifestations of the disease are numerous, it is not surprising that many remedies sometimes act beneficially; thus most patients are made worse by iodine, but occasionally its administration has brilliant results; some patients improve on an ample beef diet, whereas others react favourably to vegetarianism. The important section on prophylaxis gives the details of Marine and Kimball's extensive and successful experience in the prevention of goitre by sodium iodide given to 1,000 schoolgirls in the Great Lakes goitrous area. In the account of the hygienic treatment of the disease the importance of removing any possible causal factor is emphasized, and then, in connexion with the subject of rest, it is pointed out that in the average case "a rest cure rests neither body or mind," and that accordingly complete rest in bed is contraindicated, except in dangerous cardiac insufficiency. The dietetic treatment is carefully discussed, the objections to a meat regimen are mentioned, and a number of diet sheets are given. Medicinally quinine, especially the hypobromate (gr. v, t.d.s.), is the drug of choice. In the shrewd and practical remarks on psycho-therapy attention is drawn to the value of making the patient laugh, and to the therapeutic use of music, according to the patient's taste; thus, "even jazz, the prototype of cubism in art," may be beneficial. Although the psycho-therapeutic measures necessary may impose a difficult task on the medical attendant, the results fully compensate for the pains expended. Written in a rather breezy style, this monograph may perhaps arouse criticism, but it shows practical wisdom combined with a good acquaintance with the literature of a subject much to the fore in the United States.

AMERICAN MEDICAL BIOGRAPHIES.

American Medical Biographies, by Professor HOWARD A. KELLY and Dr. W. L. BURRAGE,[3] is the expansion of the biographical part of Professor Howard Kelly's *Cyclopedia of American Medical Biography*, which was published in 1912, and contained introductory chapters on the history of several of the specialties, a number of portraits, and 1,184 biographies. The present volume contains 1,948 biographies, and thus provides succinct information about the medical worthies of the United States of America and Canada for more than 300 years, ending with the year 1918. The principle of selection has been to include every man or woman who has in any way contributed to the advance of medicine in the United States or Canada, or who, being medically qualified, has become distinguished in general science or in literature. The list contains stars of the first, second and third magnitude, and naturally the question of admission often arose; in coming to a decision the editors "cultivated a catholicity of judgement that broadened as the work progressed." In addition to a general alphabetical index, there is a local index in which an attempt has been made to give the chief places of practice of the worthies in this book alphabetically by states, territories, and the provinces of Canada. The first name in the first state, Alabama, in the local list is that of J. Y. Bassett, made so familiar as "An Alabama Student," by the late Sir William Osler, who contributed this and other biographies to this work. The State of Utah and Prince Edward's Island each have two names to their credit, New York nearly 500, Pennsylvania over 300, and Massachusetts about 250. The bibliographies resemble those in the *Dictionary of National Biography*, and, though not all signed, are by various hands; one of the longest, that on Benjamin Rush, "the American Sydenham," occupying about seven columns, is by Dr. F. R. Packard, and one of the most charming is Professor Howard Kelly's account of Colonel John McCrae, the author of "In Flanders Fields." Most appropriately the work is "dedicated in love and esteem to the memory of Sir William Osler," whose lifelong interest in the subject did so much for medical biography and its study in America. The labours of Professor Howard Kelly and Dr. Burrage have been crowned by success, for they have provided a source of reference from which many will draw for many years, and on all accounts they deserve our sincere thanks and congratulations.

NOTES ON BOOKS.

THE second edition of *Diseases of the Chest*,[4] by Professors LANDIS, NORRIS and KRUMBHAAR, of the University of Pennsylvania, provides the student and medical practitioner with an excellent work on the principles and practice of the physical diagnosis of diseases of the chest. The first edition of this book was reviewed less than four years ago (BRITISH MEDICAL JOURNAL, 1917, ii, 796), and it suffices to say that the present edition has been well brought up to date and amplified where necessary. The volume contains a great deal of valuable information as to the how and the why of the physical signs upon which diagnosis so largely rests, and should be within reach of all medical students.

Volume XIV of a *Traité de Pathologie Médicale et de Thérapeutique appliquée*,[5] published under the direction of EMILE SERGENT, L. RIBADEAU-DUMAS, and L. BABONNEIX, deals with parasitic infections. Several authors—Neveu-Lemaire, Ameuille, Troisier, Paisseau, Gouzien, Abrami, and Raymond—contribute to it. The part will appeal to tropical workers, as helminthiasis, protozoology, and other tropical diseases appear in its pages. Neveu-Lemaire deals with coccidiosis, and the new work by Dobell on this subject is incorporated. The helminthic chapters give a very good account of the subject, on the whole, though perhaps there is nothing very new to report. Trypanosomiasis, malaria, leishmaniasis, dysentery, spirochaetosis, rat-bite disease, are some of the other subjects dealt with. The volume with index runs to 577 pages. The illustrations are somewhat scanty, but those that do appear are quite good and instructive. The coloured plate on malaria

[2] *Exophthalmic Goitre and Its Non-Surgical Treatment*. By Israel Bram, M.D. London: Henry Kimpton, 1921. (Med. 8vo, pp. 438. 30s. net.)

[3] *American Medical Biographies*. By Howard A. Kelly, M.D., LL.D., F.A.C.S., Hon. F.R.C.S.Edin., and Walter L. Burrage, A.M., M.D. Baltimore: The Norman Remington Company. 1920. (Double crown 8vo, pp. 1339.)

[4] *Diseases of the Chest and the Principles of Physical Diagnosis*. By George William Norris, A.B., M.D., and Henry R. M. Landis, A.B., M.D. With a chapter on the Electrocardiograph in Heart Disease, by Edward B. Krumbhaar, Ph.D., M.D. Second edition, revised. Philadelphia and London: W. B. Saunders Co, 1920. (Roy. 8vo, pp. 844; 433 figures. 35s. net.)

[5] *Traité de Pathologie Médicale et de Thérapeutique appliquée*. Publié sous la direction de Emile Sergent, L. Ribadeau-Dumas et L. Babonneix. XIV: Infections Parasitaires. Par Neveu-Lemaire, Ameuille, J. Troisier, Paisseau, Gouzien, Abrami, et Ramond. Paris: A. Maloine et Fils. 1921. (Demy 8vo, pp. 577; 143 figures. 2 plates. Fr. 30; post free, Fr.33.)

is not very good; it might have been better for a book of this kind. The descriptions of the diseases are full and up to date, and the book may be recommended to those who read French.

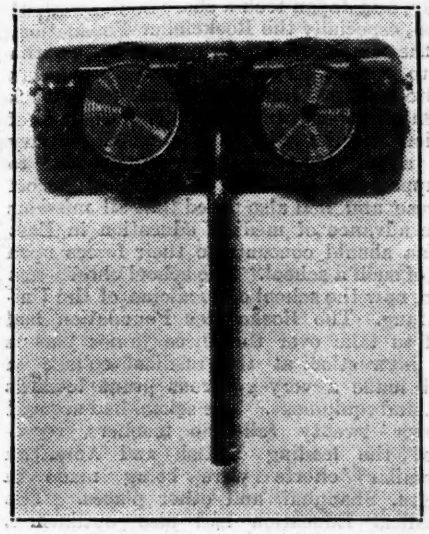
A COMPENDIOUS but expensive students' handbook of treatment is provided by Professor FINKELNBURG of Bonn, aided by a dozen contributors, in the form of Therapy at Bonn University Clinique.[6] The first five hundred pages deal with medicine and surgery; the remainder is devoted to gynaecology, cutaneous diseases, and special forms of treatment. It is doubtful whether the whole subject of treatment is capable of compression within the narrow limits of a book of this size, if practical utility is to be considered and if generalities, useless to the beginner, are not to take the place of the detailed advice for which he is always seeking.

[6] *Die Therapie an den Bonner Universitätskliniken.* By Professor Dr. Rudolf Finkelnburg, in Bonn. Dritte, vermehrte Auflage. Bonn: A. Marcus and E. Webers. 1920. (Cr. 8vo, pp. 757; 7 figures. M. 36; bound M. 44.40.)

APPLIANCES AND PREPARATIONS.

A Double Retinoscope.

DR. R. C. MACDONALD (Inverness) writes: With the double retinoscope here illustrated refraction is more easily and more accurately performed, the shadows are more vivid, and the illumination better than with any single instrument, and the operator has the benefit of vision with both eyes, and if he is ametropic can wear his correction. Correction can be made to an eighth of a dioptre or less, and good results can be obtained even in daylight. An ordinary bullseye electric, argand, or other lamp is used over the patient's head in the usual way. The instrument must first be adjusted to the interpupillary distance of the operator; then the reflection is thrown on a screen at the working distance preferred—say one metre—and the two reflections are accurately superimposed so as to make one circle of light. On looking through the instrument, at the eye a brilliant reflex is seen by both eyes simultaneously. No further adjustments are required unless another operator wishes to use the instrument. An electric model is also made, and the instrument can be obtained with concave or plain mirrors according to choice. The instrument is made for me by Mr. Robert Whitelaw, surgical instrument maker, Woolmanhill, Aberdeen.



Menthofax Ointment.

Methyl salicylate, which is rapidly absorbed when rubbed into the skin, is often employed as a local application in chronic rheumatism and neuralgic affections. Messrs. Burroughs, Wellcome and Co. now prepare a compound methyl salicylate ointment to which they have given the name "menthofax." This contains—in addition to some 50 per cent. methyl salicylate—menthol, eucalyptol, and oil of cajuput. It is packed in collapsible screw-topped tubes for use when an analgesic and rubefacient application is needed.

MESSRS. J. AND A. CHURCHILL announce for early publication *Critical Microscopy*, by Dr. A. C. Coles.

WE have received from the Disabled Society a pamphlet compiled by Captain H. C. Baird, D.S.O., "for the general guidance of ex-service men of all ranks who have lost one or more arms or legs." Its fourteen pages contain a good deal of information which should be useful to persons who have undergone amputation as to rates of pension and other benefits to be obtained by disabled ex-service men. We fear that it may be too late to protest against the absurd but widespread practice of describing a man who has perhaps three and three-quarter limbs instead of four as "limbless."

THE SEARCH FOR A SPECIFIC TREATMENT OF TUBERCULOSIS.

A BACTERIOLOGIST'S ATTEMPT.

ATTENTION has recently been called in the public press to a specific method for the treatment of pulmonary tuberculosis devised by Henry Spahlinger, a Swiss bacteriologist. Professor Letulle communicated to the Académie de Médecine on April 28th, 1914, a note in which it was stated that the method consisted of a series of intramuscular injections of a combination of tuberculous antigens and of ferments, and that this "specific" treatment was combined with an "auxiliary" treatment composed of ferments associated with lipoids, which were administered either intramuscularly or intravenously. A considerable number of cases were, we believe, treated at the City of London Hospital for Diseases of the Chest and possibly elsewhere in London at that time, and it appears that some of them survive; how many were treated and how many survive we have not been informed. We have received from Dr. A. H. Croucher of Eastbourne a letter, dated February 14th, transmitting a translation of a note which he informs us was deposited by M. d'Arsonval at the Académie des Sciences in Paris on February 7th. In this note it is stated that the material used consists of antigens and ferments obtained from the tubercle bacilli. The antigens, it is stated, are separately inoculated in increasing doses, according to a fixed scale, so that at the end of several months an injection of all the components of the bacillary bodies is made. The note goes on to say that treatment by this method has been carried on from 1915 to the present time in Switzerland, France, and England; Dr. Croucher reports that all the cases known to him treated six years ago were still alive and capable of carrying on their daily occupations at the end of 1920. All the patients, he states, were in 1913 suffering from advanced tuberculosis and two had laryngeal complications. The note contains also a statement by Dr. Leonard Williams, who is represented as stating that certain cases of advanced tuberculosis with bacilli in the sputum treated under his observation by this method in 1912–14 had remained well during the last six years, although they had received no specific antituberculous treatment since 1914. Examination in 1920 showed that their condition was good; there was no trace of active tuberculosis, no cough, and no expectoration.

The statement that the Ministry of Health had sent one of its staff to Geneva to investigate the matter is incorrect, and it is, of course, clear that no useful purpose could be served by such a mission until M. Spahlinger and his friends have made a full statement as to the way in which the material is prepared and have allowed competent bacteriologists to observe their methods. As Dr. Addison said very judiciously at Exeter, "it is most important, having in view the fact that widely published statements may raise unfounded hopes in the hearts of consumptives, that it should be stated as clearly as possible that in the case of this supposed remedy much further investigation will be necessary."

The reports which have so far reached us do not make plain the real nature of Spahlinger's remedy. In the following communication, which we have received from Dr. W. Camac Wilkinson, he assumes it to be in the nature of a tuberculin:

I have read the evidence in favour of the method advocated by the Swiss bacteriologist, M. Henri Spahlinger, and have frankly discussed his point of view with him at a private interview. His method is based on the principle of active immunization by means of the products of the specific tubercle bacillus, and his remedy is therefore specific. He even speaks of antigenic treatment, using the very term I suggested years ago instead of the irrelevant term "vaccination" or treatment by "vaccines." Tuberculin is the antigenic substance and is not a vaccine.

In fact and in principle, M. Spahlinger's method is the self-same method which I have been using for thirty years, and have been advocating in season and out of season for twenty years. M. Spahlinger even has the same views upon "mixed infection" which I have unceasingly championed since the year 1896. Moreover, I can produce at least five times as many cases as M. Spahlinger can, which were treated in 1910, 1911, and 1912, and are still alive and at work in 1921. I therefore view

M. Spahlinger's method in no hostile spirit; indeed, I welcome him as an ally. Our methods are similar, and may be the same. Possibly M. Spahlinger has improved the means of securing immunity by using the products of the tubercle bacillus in a somewhat different and better way or in a modified form.

I must approve of the direct method of treatment that exploits the products of the tubercle bacillus as a means of creating immunity against the live bacillus, and I have abundant evidence that, with care, discrimination, experience, and courage, one can slowly build up a fairly efficient mechanism of immunity—even in advanced forms of pulmonary tuberculosis complicated with tuberculous ulceration of the larynx—by means of these very products. The direct examination of the larynx, of the blood by Arneth's method, and of the expectoration, yields convincing evidence of the value of this method of active immunization by means of the specific products of the tubercle bacillus. If one can obtain these results in the late stages, *a fortiori* the treatment of the early stages must be and is tenfold more successful.

It was to prove the value of these specific products, which, variously modified, I had used in Australia for twenty years with great success, that I came to England in 1909, and established my tuberculin dispensary and its branches; and at the present moment there is no better place for testing the relative merits of my methods and M. Spahlinger's. When I came to England, tuberculin as a remedy for tuberculosis had been abandoned (see Osler's *Medicine*). If I have done nothing else I have made medical men think hard and talk loud of the dangers of tuberculin, till year by year the talk about danger has subsided into a timid whisper; the latest book on tuberculin treatment does not even mention danger. The medical profession may now be in a mood to give a fair and open trial to specific treatment. My work has prepared the way, and I rejoice to think that a Swiss bacteriologist gives this stimulus to research, for which I have been pleading for many years. I personally welcome any fair and open trial of any method of specific treatment, which is most surely the method of the future. But it must be a real trial of the relative merits of our systems by competent judges who have made themselves authorities by work and not by official position.

Such a trial must fulfil strict conditions. Assuming that the trial will be in the hands of experts, I have already laid down the essential conditions in my work published in 1912:

1. The remedy should be the only remedy used in treatment.
2. The remedy should be exploited in a consecutive series of cases of all kinds (not merely specially selected cases), and all the cases fully treated should be published.
3. After treatment the cases should be carefully watched and examined for at least three or four years before a final judgement is given upon the value of the remedy.
4. The results should be arranged in three groups, or better, as in my own records, in five groups, according to the character and degree of the changes in the lungs.

These conditions, I admit, disqualify the work of almost all observers, because, except by myself, tuberculin has never been tested under these conditions. My own observations have been carried out as far as possible under these conditions, and therefore should furnish trustworthy evidence of the value of the method. (*Tuberculin in the Diagnosis and Treatment of Tuberculosis*, p. 477.)—I am, etc.,

W. CAMAC WILKINSON, M.D.Lond., F.R.C.P.,
Director, Tuberculin Dispensary.

THE ADVANCE OF MEDICAL EDUCATION IN CHINA.

A MEETING of members of the medical profession to advance the cause of medical education in China was held in the Barnes Hall of the Royal Society of Medicine on February 21st. Sir DONALD MACALISTER presided over a large gathering, and messages of regret at inability to attend were received from the late and present Chinese Ambassadors, the American Ambassador, and others.

Sir DONALD MACALISTER said that for many years he had been associated with Christian propaganda in China, in particular with medical missions. It had long been his conviction that the true method of spreading Christianity in the East was the method of its Founder, who went about not only preaching the good news of the kingdom, but healing all manner of diseases. But when the seeds of Christianity had been wisely planted in China its further growth would be conditioned by the measure in which it ceased to be regarded as foreign. The ultimate aim of medical missions in China should be, not to place numbers of British or American doctors all over that land, but by education to build up a Chinese medical profession. That was the spirit of the great educational enterprises centred at Moukden and Peking, and very particularly at the Christian University of Shantung.

Mr. HAROLD BALME, F.R.C.S., of the School of Medicine of the Shantung University, said that western medicine was introduced into China by Colledge, a surgeon of the East India Company, in 1827, and a little later by Parker, a medical missionary from America. The first Chinese medical college was established at Tientsin in 1881, thanks to Kenneth Mackenzie of the London Missionary Society, and the help of Li Hung Chang. Six years later a second medical school for Chinese students was founded in Hong Kong. After the Boxer rising a school of medicine was established in Peking, the result of a combined effort of British and American medical men, and, following this, missionary medical colleges sprang up in other parts of the country—too many of them, indeed, in view of the limited staffs and equipments available. Meanwhile, a body of Chinese medical men, who had received their training in England and America formed a National Medical Association, with Dr. Wu Lien-teh, a graduate of Cambridge, as leader. Other organizations, not specifically missionary, in America, Germany, and Japan took a share in the work of medical education, especially the Rockefeller Foundation, which took over the complete financial responsibility of the Peking College, to which a large staff of expert teachers had been appointed, mostly from the United States, but including thirteen Chinese professors. The Council of Medical Education of the China Medical Missionary Association had asked the Rockefeller Foundation to assist in the support of at least one medical school teaching in Chinese, and had also urged that all missions interested in the advance of medical education in East and Central China should concentrate their forces upon the development of such a school. The school chosen was the one at Tsinan, now the school of medicine of the University of Shantung. The Rockefeller Foundation had asked the school to take over the three junior classes formerly under instruction at the medical college in Peking, and had made a very generous grant towards staffing, building, and equipment. The school had secured a faculty of over twenty full-time teachers, representing some of the leading British and American universities. Similar efforts were being made in Moukden, Chengtu, Shanghai, and other places. The Council of Medical Education had also outlined a two-year course of pre-medical instruction to be taken by students previous to entering upon their five-year medical course. The speaker touched also upon the great improvements in the Chinese nursing service, the interest of the modern Chinese in preventive medicine, and the sympathetic attitude of the Chinese Government. The policy of the Board of Education of China, as stated by a representative of the Board at the last conference of the China Medical Missionary Association, included the provision of a modern medical college in each province, the opening of an institute for research, and the registration of general practitioners.

Sir A. PEARCE GOULD moved:

> That having heard with pleasure of the sympathetic interest of the Chinese Government in the development of modern medicine in China, and of the steps which have already been taken by British and American medical practitioners to co-operate with the Chinese in the establishment of medical schools in which the highest standards are set, this meeting of members of the British medical profession desires to place on record an expression of its sympathy with this effort, and its willingness to promote in every way possible the advance of medical education in China.

He remarked on the ancient civilization of China, that at a period when we in Europe were without measure of time or a craft to our fingers, the Chinese were expert astronomers and proficient in the fine arts. It was unthinkable that a people who had been so great in the past and still had such wonderful powers of grasping modern science—as was proved by the work on plague prevention

carried out by Chinese graduates—should not carry the lamp far ahead once it was placed in their hands.

Mr. McADAM ECCLES, in seconding the resolution, said that he believed that medical education in China would result in diminishing, if not abolishing, what was called the "Yellow peril."

The resolution was carried unanimously.

Dr. H. G. EARLE, Dean of the Medical Faculty of Hong Kong University, expressed his appreciation of the work of the China Medical Missionary Association. Last year he attended its biennial conference, which was split up into scientific sections, where a great deal of original research was brought forward. In Hong Kong all the special buildings for medical work—physiology, anatomy, tropical medicine—were the result of donations from the Chinese community. He always told his students who wanted to visit England or America to qualify in their own country first, and the provision of post-graduate facilities here for Chinese graduates would to no small extent advance medical education in China.

Dr. L. SAMBON suggested that not only should the results of Western research be carried to China, but that we in the West should study the ancient medical knowledge of China and of the Orient generally. China first taught the treatment of syphilis by mercurial preparations, and we owed the prevention of small-pox in some degree to China, though more to India.

Mrs. SCHARLIEB proposed a vote of thanks to the Chairman; and Sir JOHN JORDAN, late Minister Plenipotentiary to Peking, in seconding, said that although the British were the pioneers of medical work in China, and for a long period carried it on alone, they had now yielded to the Americans in this respect, greatly to the loss of British influence and prestige. The best intellect of China was now being trained in the United States, where in a single city there were gathered more Chinese students than in the whole of this country.

LUNCHEON TO THE EDITOR OF THE "BRITISH MEDICAL JOURNAL."

SIR DAWSON WILLIAMS, Editor of the BRITISH MEDICAL JOURNAL, was entertained by the Council of the British Medical Association at a complimentary luncheon at the Hotel Cecil on Wednesday, February 16th, in recognition of the knighthood conferred upon him at the New Year by the King. Dr. R. A. BOLAM, O.B.E., Chairman of Council, presided. The toast of the King having been duly honoured, the Chairman referred to Sir Dawson Williams's long connexion with the BRITISH MEDICAL JOURNAL, and to his appointment as Editor in 1898. He was sure that they were all deeply glad that Sir Dawson Williams's work for the Association, for the profession of medicine, and for the community at large, had been recognized in the way it had been by His Majesty the King. Sir Dawson Williams had always been willing to give every assistance and advice in his power, and though some of them had not always found his opinion the same as their own, they knew that the view expressed was given honestly and without fear.

Sir CLIFFORD ALLBUTT, President of the Association, referred to his long friendship with Sir Dawson Williams and to the many accomplishments of their guest. He said that if one tried to put into a word, or into a few words, the character Sir Dawson Williams set before them, he thought they would feel that that combination of breadth of view and sympathy, and a fine kind of understanding and knowledge of the world, was summed up in the single word, wisdom—he was a particularly wise man. Another quality was his impenetrable modesty. His presence at the head of what was the greatest medical journal in the British Islands had been of very great benefit to the affairs of the British Medical Association, and had helped to bring it to the high position it now held. The Editor was from time to time called upon to deal at once with matters affecting the profession which were suddenly raised and were afterwards the subject of full consideration and discussion. He had always been astonished at the skill with which the Editor had dealt with such matters when first arising.

Dr. J. A. MACDONALD said he wished to add his quota to the appreciation of Sir Dawson Williams, because probably he had had more intimate intercourse with him than anyone else in the assembly during the twenty years for which he had been closely connected with the work of the Association; he would like to add something to what Sir Clifford Allbutt had said of their guest's public career by which he had made his name. From all he had heard, particularly from those who attended the special meeting of the Association in London in 1919, the appreciation of Sir Dawson Williams was world-wide. Every man with whom he had spoken in that great assembly of the medical profession referred to Sir Dawson Williams's wonderful prescience, and his way of getting at the heart of things and giving a good sound opinion. With regard to the JOURNAL, it had taken the head place of medical journalism in the world. He had consulted Sir Dawson Williams on many occasions, and his opinion, once obtained, was invaluable. There was no man in the whole of the medical profession whose opinion and knowledge of affairs was so much appreciated as that of their guest, but it was often difficult to get.

The CHAIRMAN then formally proposed the health of Sir Dawson Williams, which was received with musical honours.

Sir DAWSON WILLIAMS, who on rising was received with acclamation, thanked those present for the reception accorded him. The fact that the honour of knighthood had been conferred upon the Editor of the *Lancet* showed that the desire was that the work done by the medical journals in connexion with the war should be officially recognized. That being so, he was of course pleased that the JOURNAL of the Association was included in the recognition. The war brought about a position of gradually increasing difficulty for medical journalism. It entailed, among other things, a change in the scope of the JOURNAL, as probably two-thirds of the active medical profession were engaged in military surgery and medicine. If he was right in believing that the honour conferred upon him was due to action taken by influential members of the general press, it was interesting to remember that the general press was founded some three hundred years ago by a doctor of medicine. During his long connexion with the JOURNAL, and especially during the twenty-three years he had been Editor, he had seen great and beneficial changes in its character; he hoped the progress might continue. The JOURNAL had two main functions to discharge. First, the dissemination to members of the Association of information on the progress of clinical medicine and the sciences on which it rested; and that, in his view, was by far the most important duty, for the very practical reason that as the profession became more efficient in the prevention and cure of disease, so its influence in Parliament and in the general community would increase, and further, in this way only would quackery be extinguished. The other important work was to disseminate information as to what was being done by the Association in connexion with medico-political affairs. He had always received the greatest kindness and consideration from all the officers of the Association, and especially from Dr. Macdonald during all the trying time he was Chairman of Council until his recent retirement.

The following letter was addressed to the Editor of the JOURNAL on January 3rd by the senior member of the printing staff of the BRITISH MEDICAL JOURNAL:

Dear Sir,

At a specially convened meeting, held on January 1st, the Printing Staff of the BRITISH MEDICAL JOURNAL resolved unanimously to tender you their sincere congratulations on receipt by you of the honour of Knighthood at the hands of His Majesty the King.

The Printing Staff feel that your arduous labours on behalf of the Medical Profession, on the one hand, and of suffering humanity on the other, richly deserve this well-merited recognition by the head of the State; they also trust you may be spared for many years to continue your good work and enjoy the honour conferred upon you.

On behalf of the Printing Staff, I beg to remain,

Your most obedient servant,

J. R. PEARCE,
Father of the Chapel.

Sir Dawson Williams,
Editor, BRITISH MEDICAL JOURNAL.

British Medical Journal.

SATURDAY, FEBRUARY 26TH, 1921.

HOSPITAL STAFFS.

THE discussion on the future provision of hospitals, and particularly as to the maintenance of the voluntary system, has during the last few months passed into a more satisfactory phase. Hasty generalizations and panic-stricken suggestions, turning everything topsy-turvy, have given place to a spirit of reasoned inquiry and careful investigation of facts. The proposal contained in the hospital clause of the Ministry of Health (Miscellanous Provisions) Bill would have given the council of a county or county borough power to establish and maintain a general hospital; the council would have had power to borrow money, if necessary, in order to establish the hospital, and would have maintained it out of the rates. Very little consideration of the inevitable effect of these proposals in checking the flow of public benevolence was sufficient to convince all persons acquainted with the way in which voluntary hospitals are maintained that the clause would, if carried into law, before long bring the voluntary system to an end. Dr. Addison consented to withdraw the proposal and undertook to appoint a committee to inquire into the financial position of voluntary hospitals. The clause as it reached the House of Lords still provided that a county council should have power to take over a Poor Law hospital or infirmary and maintain it as a hospital for the treatment of illnesses or diseases generally or for any particular illness or class of illness. The rejection of the whole bill on the second reading in the House of Lords has not interfered with the activities of the committee which is now sitting under the chairmanship of Viscount Cave, and evidence has been given before it on behalf of the British Medical Association.

It is of course obvious that the medical profession is greatly interested in many parts of the subject Lord Cave's committee is considering. The British Medical Association was in fact the first to draw attention to an aspect of the matter which has since attracted a great deal of notice. The conference of staffs of voluntary hospitals, held at Cambridge during the annual meeting last year, to consider the question of the treatment of State-supported patients, had for one result that it brought into prominence the fact that the number of such patients is very considerable. Another conference on the same subject was held in London on December 21st, when resolutions were passed reaffirming the belief that the existing method of maintenance and staffing of the voluntary hospitals is to the advantage of the public and medical science, and of the medical profession. The subject has been fully discussed also at conferences of the profession in Scotland, held in Edinburgh at the end of July and early this month. As will be seen from the report published in the SUPPLEMENT this week, the conference in Scotland arrived at the conclusion that the present methods of administration of the voluntary hospitals should be continued, and the opinion was further expressed that it was not desirable that voluntary hospitals should be subsidized by the local rating authorities, except in so far as payment is made for the examination and the care of patients for whom these authorities are responsible. There is thus general agreement that the status of patients for whom the State is responsible differs from that of other hospital patients, and that not only should the hospitals be reimbursed for the cost of maintenance, but the medical staffs should receive remuneration for their treatment.

The recent report of King Edward's Hospital Fund for London, to which reference was made in our issue of February 5th, has stated the position with regard to hospitals in London very clearly, and the same principles apply to many other voluntary hospitals, including practically all those in other large cities. The Council of the Fund pointed out that as the demand for hospital treatment grows the voluntary system must either expand so as to meet the whole of the growing demand, or confine itself to meeting the whole of the need in the particular kind of demand which it may be best fitted to meet, refraining in the latter case from opposing the establishment of other agencies to meet other parts of the need. It is suggested that different plans may be appropriate to different localities or to different kinds of hospital, and at the first conference of the British Medical Association — that at Cambridge — it was pointed out that the teaching hospitals formed a very special case. The staffs of such hospitals will, as a rule, prefer to be paid for their work as teachers rather than for the time and skill they give in the treatment of patients.

There seems to be a good deal in the argument of the King Edward Hospital Fund that, as the present sphere of the voluntary hospital is the result of a process of specialization, so possibly the best use of the voluntary hospital accommodation and equipment, present and future, would be promoted by some further development of this principle of partial specialization, the specialization taking place probably best between a parent hospital and branches, such as homes of recovery, convalescent homes, or, as has happened at St. Mary's Hospital, London, between the voluntary hospital and the non-voluntary hospital, established possibly in a Poor Law infirmary, and maintained by a local authority under some such provision as that in the Miscellaneous Provisions Bill of the Ministry of Health.

THE FOOD FACTOR IN PELLAGRA.

ALTHOUGH the etiology of pellagra is still in doubt the belief that it is due to a defect in diet has gained ground. Castellani and Chalmers, in the last edition of their *Manual of Tropical Medicine*, observe that modern work tends to support the theory that the absence of a vitamine is the true cause of the disease, but they recognize that there are difficulties in the acceptance of this view. A diet largely of maize, especially if damaged, has been believed to be the cause; maize in itself cannot be the cause, as the disease occurs in countries—as, for instance, England and Scotland—in which maize is not a staple article of diet. Possibly an explanation of the belief is to be found in the fact that in regions where maize is a staple food the diet has a low protein value; the absence or the presence in insufficient quantities of a vitamine may also play some part in causation. Any careful contribution to the subject is therefore to be welcomed, and we propose to give a short account of the results of an interesting experiment recorded in the *Bulletin* (No. 120) of the Hygienic Laboratory of the United States Public Health Services, for the facts have some bearing on general principles.

The experiment, which resulted in the production of pellagra, is described by Joseph Goldberger and G. A. Wheeler. The subjects were adult male convicts who volunteered. Of the 12 who entered the experiment, 11 remained throughout; one had to be released on account of a physical infirmity. The controls to the experiment consisted of 108 convicts, of whom 35 were under observation for a period comparable to the period of observation of the subjects of the experiment. Minute precautions were taken to ensure the segregation of the volunteers and to exclude all factors, such as risk of infection, which might have complicated the results. The volunteers were required to do light work. The experiment fell into two periods—one extending from February 4th to April 19th, during which the volunteers were kept under observation without any change in the regular prison fare. Pre-existing pellagra was thus excluded. The second period extended from April 19th to October 31st; during it the volunteers subsisted on the experimental diet. The diet of the convict controls provided an average of approximately 3,500 to 4,500 calories, yielded by about 90 to 110 grams of protein, 95 to 135 grams of fat, and 540 to 580 grams of carbohydrate. Approximately, 20 to 35 per cent. of the proteins was from animal food. This diet was superior to the experimental diet with respect to the proteins, mineral constituents, and antineuritic and fat-soluble vitamines. The ingredients of the experimental diet were highly milled wheat flour, maize meal and grits, corn-starch, white rice, cane sugar, cane syrup, sweet potatoes, pork fat, cabbage, "collards," turnips, turnip greens, coffee, baking powder, salt, and pepper. During the first three months some buttermilk was used in making wheat biscuits. The average intake of the volunteers varied approximately between 2,500 and 3,500 calories. The average intake of protein varied between 41 and 54 grams, of fat between 91 and 134 grams, and of carbohydrate between 387 and 513 grams; 80 to 90 per cent. of the total protein was from cereal sources (wheat, maize, rice). The antineuritic vitamine content was planned to be low, but in the absence of any distinctive clinical manifestations of beri-beri the observers consider that the amount of this vitamine was not appreciably deficient for the needs of the volunteers during the period of study. Similarly, in the absence of recognizable indications of scurvy the diet was considered to have included an adequate supply of antiscorbutic factor. With regard to the adequacy of supply of vitamine A the observers found it difficult to judge by reason of the meagreness of the available fundamental data; none of the volunteers, however, developed xerophthalmia. The intake of mineral ingredients of the diet was decidedly low.

On this dietary six out of eleven convicts who were submitted to the test for its full period developed pellagra; the characteristic rash occurred with particular frequency on the scrotum. The observers conclude that "in relation to the production of pellagra the study suggests that the dietary factors to be considered as possibly essential are (1) an amino-acid deficiency; (2) a deficiency or faulty constitution of the mineral supply; possibly, but doubtfully, (3) a deficiency in the fat-soluble vitamine intake; and, perhaps, (4) an as yet unknown (vitamine?) factor. As to which or what combination (or combinations) of these constitutes the specific pellagra-producing dietary defect or defects remains to be determined. The experimenters attach little importance to the low content of the food in "anti-neuritic" vitamine.

In another paper M. X. Sullivan deals with the effects of this pellagra-producing dietary on fowls, pigeons, and rats. He found that fowls speedily began to suffer from polyneuritis, pigeons had convulsive seizures and a few typical polyneuritis; rats speedily lost weight, and exhibited marked evidence of malnutrition, several dragging their hind limbs a short time before death.

The Goldberger diet was thus markedly deficient in antineuritic vitamine for animals, and therefore deficient in this vitamine for man. On the evidence afforded by these papers, it would seem that Goldberger and Wheeler have attached too little importance to the effects of an insufficient supply of vitamines in the production of pellagra. The work of British observers in this field of research would appear to link up with that of their American colleagues. McCarrison, in papers published in this journal, has drawn attention to the profound changes in the digestive organs which result from deficiency of vitamines, changes which would appear to simulate closely those found in pellagra. He has insisted that the term "antineuritic" as applied to vitamine B is misleading, since it directs attention to changes in one system of the body only, while others of equal importance take place earlier, such as those in the organs of digestion and assimilation which lead to the early appearances of digestive disturbances. He has shown also that deficiency of vitamines causes profound changes in the endocrine regulators of metabolism, and especially in the suprarenal glands. May it not be that the inadequate supply of protein to the body tissues, shown by the work of the Committee of Inquiry into Pellagra among Turkish prisoners of war to be so important in the genesis of pellagra, is due primarily to a failure in the organs of digestion and assimilation and of the endocrine organs, consequent on vitamine deficiency? Goldberger and Wheeler appear to have excluded the antiscorbutic factor as devoid of importance in their dietary; but here again McCarrison's work has emphasized that profound changes take place in the suprarenals before clinical evidences of scurvy are present.

The American observers are to be congratulated on their admirable contribution to our knowledge of pellagra. It seems probable, however, that while the suitability of protein is of the highest importance, it is not likely to be adequately utilized by the body tissues in the absence of a sufficiency of vitamines.

THE CZECHO-SLOVAK PUBLIC HEALTH DELEGATES.

THE delegation from the Ministry of Public Health and Physical Education of Czecho-Slovakia, to which reference was made last week, spent altogether rather more than a fortnight in England. They were the guests of the International Health Bureau (Rockefeller Foundation), and their visit to this country was preceded by a two months' tour of the United States; they have now gone to Paris. In London they have had the advantage of hearing a detailed exposition of health administration in England and Wales from Sir George Newman and other medical officers of the Ministry of Health, followed by a series of lectures and demonstrations on special subjects. Among these has been a lecture on special schools for deaf and dumb and crippled children, by Dr. Eichholz, of the Board of Education; on maternity and child welfare, by Dr. Janet Campbell; on port sanitation, by Dr. R. J. Reece; on food inspection, by Dr. A. W. J. MacFadden; and on the voluntary general hospitals, by Sir Napier Burnett. The clinical unit system at University College Hospital has been explained to them by Professor T. R. Elliott, the

venereal disease clinic at St. Thomas's by Lieut.-Colonel Harrison, the most recent appliances for field sanitation by Colonel P. S. Lelean, at the Royal Army Medical College, and the training of sanitary inspectors, by Mr. E. W. Wallis, at the Royal Sanitary Institute. A visit has also been paid to the Medical Research Council's laboratories, the Government lymph establishment, and a model farm for milk production. Opportunities have been given for the inspection of the arrangements of the Metropolitan Water Board for pumping, storage, and filtration, the London fever hospital and ambulance service, and the control of the city markets. A day has been found for the enjoyment of municipal hospitality at Brighton, where the delegates inspected a sanatorium and an open-air school of a new type, and on another day they were the guests of Cambridge University. In summarizing their impressions just before departure, the delegates said that of all the institutions which they had learnt even in a short while to admire in England, the voluntary hospitals were pre-eminent; in their own country the hospitals are county or State institutions. Next to these the English system of school hygiene most impressed them, and they hope forthwith to establish a similar system of medical inspection and treatment in the schools of Czecho-Slovakia. From the general efficiency of our municipal health service, particularly in connexion with tuberculosis and venereal diseases, they gathered the lesson that it was very important that the areas of administration should be sufficiently large, and they proposed that such work in these directions as is done in Czecho-Slovakia shall be transferred from the authorities of small districts to the authorities of counties. The education of sanitary inspectors and health visitors has interested them, and though it would not be possible for them to copy the English system in its entirety, they hope to make use of some of its suggestions. At Dr. Addison's invitation the delegates had an opportunity of studying housing schemes in two localities, and expressed admiration for the way in which the Ministry of Health had tackled a problem of which they had had some experience in Prague. In expressing their thanks for the kindness and hospitality they had everywhere received, they expressed special appreciation of the assistance of Dr. J. A. Glover, of the Ministry of Health, who had accompanied them throughout their English tour. The Ministry of Public Health in Czecho-Slovakia, which was set up on the formation of the Republic, has control of physical education as well as of public health proper. Physical education is compulsory both for males and females—for males up to 21, when they enter military service—and the provision of building and equipment for this purpose is incumbent upon every locality. One of the visits paid by the delegates was to the Dartford Physical Training College, and it is hoped that teachers of physical training in Czecho-Slovakia may be sent to Dartford to complete their studies. Another thing which is compulsory in Czecho-Slovakia is a triple vaccination against small-pox—in infancy, at 7 years of age, and on leaving school. In the State budget for 1921 the amount allocated for public health is 80 million krone, or about 1 per cent. of the whole budget; this relates only to the central administration, and the expenditure of the local authorities, which are charged with the upkeep of most of the hospitals, brings up the amount to about four times as much.

CANCER MORTALITY.

THE recent report of the Registrar-General shows that there was no material change in the rate of mortality from cancer during 1919. The deaths ascribed to cancer during that year numbered 42,144; the numbers for both sexes (18,723 males and 23,421 females) were higher than any previously recorded. In 1909 the total was 34,053 (14,263 males and 19,790 females). The increase has been in cases returned as carcinoma or as cancer. The sarcoma returns have been almost stationary for the last few years. During the war it was not possible to take into account the whole male population, and the figures showed a very high mortality for males aged 15 to 45. It was suspected that this rise was artificial, being due to the rejection of sufferers as unfit for military service. This suspicion is now confirmed by the return with demobilization of male mortality at ages 15 to 45 to its pre-war level; it was 179 per million in 1911–14, and 178 in 1919. With one exception (70 to 75) all the higher ages show an increase over 1918, so that the standardized total rate for males has increased from the comparable figure for 1918 (which was 912) to 943 in 1919. No such general increase in age group mortalities applies to females, and although their crude rate has increased appreciably their standardized rate remains, as in 1918, a trifle lower than before the war. The increase in the crude rate must be due to the rapid diminution of the proportion in the population of the young, whose mortality is very slight. There has been no real fall in the total rates of persons of both sexes; they are a little higher than in 1911–14. Tables showing the organs attacked in fatal cases of cancer are given; their principal features are very much the same as for many years past. It is strange, and as far as we are aware unexplained, that while the mortality of females from cancer of the upper portion of the alimentary canal—namely, the part above the stomach—is a small fraction only of that of males, yet females suffer to about the same extent from cancer of the stomach and more from intestinal cancer; 1,329 cases of cancer of the oesophagus are recorded in males, against 376 in females. Cancer of the rectum also is a good deal more frequent in males than in females; so also is cancer of the lip, tongue, mouth, and jaw. The excess of cancer mortality in the female sex is dependent upon diseases of the breast and generative organs, the number of females dying from cancer of these organs being 9,309, as compared with 903 males. If deaths from these causes be excluded in both sexes the deaths of females are reduced from 23,421 to 14,112, and those of males only from 18,723 to 17,820. Tables giving the site of fatal cancer in relation to age and sex appear to show that in both sexes the age of greatest mortality is 55 to 75, and, with few exceptions, in all the organs enumerated. The number of deaths attributed to tumours not cancerous, or not ascertained to be cancer, was 2,117; of these, 975 were due to tumours ascertained to be not malignant. Among these were 313 uterine tumours, including 242 fibroid tumours, and 273 ovarian tumours, of which 216 were cystic. Of the remaining 1,142 cases of undetermined nature 783 were cerebral tumour; in the large majority of such cases the nature of the tumour was not stated.

SCHOOL PUNISHMENTS.

CANING on the hand as a school punishment was generally condemned at a meeting of the Medical Officers of Schools Association on February 15th. The occasion was a paper by Dr. E. H. T. Nash, who had elicited expressions of opinion from other medical officers of schools by circulating a list of questions. Chastisement in school is most commonly administered by means of the cane, the birch, and, in Scotland, the tawse—a leather strap with a fringe-like end. Occasionally Dr. Nash has found a flat or round ruler, or even a fives bat, employed. The cane, which is the instrument most generally employed in State-provided schools, may inflict great pain and cause much bruising; it is exceeded in these respects only by the ash stick. The birch, still the approved instrument in many public schools, stings severely at the time, but the effect is more transient and the bruising less marked. The fives bat and the flat ruler do not cause undue pain unless brought down on their narrow edge, but the round ruler should be put out of court altogether. As for the site of application, Dr. Nash insisted that the buttocks are much safer and more effective than the hand; thanks to the strength of the gluteal muscles, it is all but impossible to do serious

damage unless there is actual breach of the skin. Dr. Nash had not come across a single instance of damage through the application of the rod to the buttocks; the hind part of the thigh, however, is very tender, and again, if the punishment is inflicted higher in the back, there is danger of injuring a rib. Boxing a child's ears is to be unhesitatingly condemned, although it is true that few cases of rupture of the tympanum have been recorded. Dr. Nash said that he had seen grave damage done by the use of the cane on the hand—in one case such as to impair musical ability, at least during school age. With one exception, all who had replied to his questions condemned caning on the hand; one officer stigmatized it as a barbarous custom. It is continued on account of the objection of parents to the caning of their boys on the buttocks, which is considered derogatory. Caning on the hand, Dr. Nash contended, should be ruled out from school punishments, on medical grounds, but the use of the tawse on the hand might be permitted. With regard to other kinds of punishment, Dr. Nash held, as did other speakers, that so important a part of the physical education as drill ought not to be associated in a lad's mind with the idea of penalty.

MEDICAL EDUCATION IN CHINA.

Two hundred years ago medical science in China was perhaps not far behind that of any other country of the world, but since that time, owing to the absence of hospitals and medical colleges, no progress has been made. Western medicine was introduced into China a hundred years ago by Colledge, a surgeon of the East India Company, and during the past century a large number of mission hospitals were opened in connexion with the missionary effort that is carried on in all parts of the country. These hospitals met with marked success, but it was not until 1881 that the first Chinese medical college was established at Tientsin; six years later a second medical college for Chinese students was founded at Hong Kong, and other medical schools gradually came into existence. The first step in the development of medical education in China consisted in the gathering together of small groups of student assistants at various centres where there were active mission hospitals. These students attended such classes as the busy practitioner was able to give them, but the training that they obtained was chiefly of a practical nature, and laboratory classes were almost unknown. The next step was the establishment of small union medical colleges at the chief cities by the co-operation of various missions; these colleges were sparsely equipped, and all were undermanned, but in them continuous instruction was made possible, and regular laboratory work of a limited character was also instituted. It was by the amalgamation of three of these colleges that the present flourishing school of medicine of the Shantung Christian University was formed. In the year 1915 the Rockefeller Foundation, acting on the report of an influential commission which had visited the country, established a special board for the purpose of assisting medical education in China. This board took over the Peking Union Medical College by arrangement with the London Missionary Society, and reorganized it, making the English language the medium of instruction. The three junior classes of students were transferred to the school of medicine of the Shantung Christian University at Tsinan, in the support of which the Rockefeller Foundation assisted, and where teaching is conducted in the Chinese language. The training of Chinese nurses is being carried on at a modern hospital of over a hundred beds at Tsinan, along with the training of the Chinese medical students; and a nurses' association has been formed, which has done much to fix the status of its members in the estimation of the people. At the Royal Society of Medicine, on February 21st, Mr. Harold Balme, Dean of the Faculty of Medicine of the Shantung Christian University, described to a meeting of members of the medical profession (see p. 308) the development and the present needs of medical education in China. The audience were gratified to learn of the sympathetic attitude which the present Chinese Government has adopted towards the development of education and of medical science in general. The members of the medical profession in Great Britain can help the cause of medical education in China by making themselves acquainted with the facts, by recruiting suitable men for the various posts which become vacant, by obtaining financial support for the project, and by the personal interest which they could show in Chinese graduates visiting this country, more particularly in the provision of post-graduate facilities.

DANGERS OF THE DOMESTIC GAS SUPPLY.

Two committees have recently been set up by the Board of Trade: one to consider the question of the limitation of carbon monoxide content in town gas, and the other to consider that of "inerts"—that is, incombustible constituents. At the first sitting of the former committee, on February 10th, evidence was given by Dr. J. S. Haldane, who said that the poisonous action of illuminating gas was entirely due to the carbon monoxide (CO) it contained. The lowest proportion which would in time produce nausea and headache and other symptoms was about 0.2 per cent., but in the course of some experiments he had found himself able to endure up to 0.6 per cent. without symptoms, as a result of getting acclimatized. When pure coal gas was distributed the risk of poisoning was negligible, but when carburetted water gas, containing about four times as much CO as coal gas, was supplied the risk went up about sixty-fold. The ratio of risk from CO increased out of all proportion to the increase in its percentage. The chief danger was due to burners turned on accidentally in bedrooms. He had allowed pure coal gas, containing about 7 per cent. CO, to escape in a room of about 1,000 cubic feet space, at the rate of about 40 or 50 cubic feet of gas an hour, and found it almost impossible to get a poisonous atmosphere at sleeping level; the gas tended to go to the roof, and only descended in small proportions. But a poisonous atmosphere was readily produced when the CO in the gas was increased three or four times—say to 20 per cent. In a room of the size just mentioned the maximum final percentage of CO in the air with gas containing various proportions of CO would be as follows: In gas containing 5 per cent. CO the maximum final percentage of CO in the air was 0.05 per cent., in 10 per cent. it was 0.09 per cent., in 15 per cent. it was 0.13 per cent., and in 20 per cent. 0.18 per cent. The lowest proportion of CO in the air which would endanger life within about twelve hours was, according to the susceptibility of the person, from 0.15 to 0.3 per cent. Dr. Haldane's suggestion was that a definite maximum of 20 per cent. CO in illuminating gas for domestic purposes should be laid down. At a previous inquiry twenty years ago he had advocated 12 per cent., but distribution of gas and pattern of burners had improved in the meantime. The other witnesses at the first sitting were two chief engineers and a chief chemist of gas undertakings. All three were strongly against the fixing of any limit for CO. One of them, representing the Gas Light and Coke Company, stated that, taking the ten years during which the largest quantity of carburetted water gas had been supplied by his company, 15 deaths had occurred in the area from accidental inhalation; in 3 other cases of sick people death had been accelerated by gas, and there were 11 cases of gas suicide. A Liverpool gas engineer gave figures for the last twenty years, during which there had been 38 fatalities attributed to accidental gas poisoning and a further 16 due to suicide. Of the 38 cases 22 were in districts supplied with gas containing less than 12 per cent. of CO and 16 in districts supplied with gas containing a higher

proportion. Medical opinion will, we believe, look upon arguments of this nature with suspicion. Carbon monoxide is an extremely dangerous gas, since it attacks the haemoglobin of the blood and is only slowly and with difficulty expelled. Moreover, being colourless and odourless, its presence in a room tends to mask an escape of coal gas, while greatly adding to its dangers.

THE BIRTH-RATE COMMISSION ON VENEREAL DISEASE.

THE voluntary organization known as the National Birth-rate Commission, which began its labours in 1910, and has already issued reports on the declining birth rate and problems of population and parenthood, has now completed a report on the prevention of venereal disease, which will be published by Messrs. Williams and Norgate on February 28th. The witnesses who advised a special committee on venereal disease of the Birth-rate Commission numbered over a score, and included physicians, surgeons, and venereal specialists of both sexes, medical officers of health, social workers and ministers of religion, medical officers of the British and American armies, representatives of the Ministry of Health, and of the two well known societies with somewhat conflicting views upon the problem of venereal disease. The conclusions reached are summed up in two sections, one on the medical aspects of the subject and the other on the moral aspects. The committee, although realizing that chastity is the best safeguard against the spread of venereal disease, recognizes that a large number of persons, male and female, will not respond to such moral appeals. It believes, therefore, on grounds of both national and individual welfare, that it is of importance to prevent by all legitimate means the development of disease in those who expose themselves to the risk of infection. It considers that some method of disinfection must be carried out as soon as possible after sexual intercourse; but the results in preventing the development of disease depend largely, it is stated, on the interval of time elapsing and the care with which the disinfecting process is carried out. In this the report appears to agree with the policy of the Society for the Prevention of Venereal Disease in recommending some form of "early self-disinfection." The report points out that the Act at present in force prevents individuals from obtaining the necessary antiseptics from chemists, and it recommends that chemists should be allowed to sell disinfectants with instructions. The committee thinks that the Ministry of Health should, through local health authorities, draw public attention to the menace to national health and welfare arising from venereal disease; and while it recommends the continuance of the early treatment centres at Manchester and elsewhere for a time, it is of opinion that it is undesirable to provide further expensive ablution centres before it has been definitely ascertained that men are unable by other means to disinfect themselves efficiently. In dealing with the relation of the moral to the medical aspects of the problem the view is expressed that a medical man in dealing with these diseases, or in proposing means for their prevention, cannot divest himself of his responsibility as a moral agent dealing with patients who are also moral agents. The moral appeal by its very nature must be the more enduring, and it is recommended that, in view of the serious situation, parents, teachers, and ministers of religion, social reformers, and medical practitioners, legislators and administrators, should combine in a national effort to assert the moral obligation of chastity, the sanctity of marriage and parenthood, and the equality of the moral standard for the two sexes.

PHYSIOLOGY AT SOUTH KENSINGTON.

THE Faculty of Medicine is considering this week the proposal of the Senate of the University of London to close the University Physiological Laboratory at the end of July, in order to provide university headquarters with more extensive accommodation for clerks, and, as has already been stated, the subject will be before the Faculty of Science—that most directly concerned—next week. It is probable that both faculties will take the view that the suggested closure would be a grave injury to the advancement of medical science, and recommend that the laboratory should be continued as a valuable part of the work of the University. A correspondent has called our attention to a memorandum written by the Prince Consort in August, 1851, at the end of his tenure of the chairmanship of the Exhibition Commission of that year. The memorandum mentions that ground was then available in Kensington Gore, and suggested that it should be purchased and four institutions erected on it—the first for metallurgy, metallurgical chemistry, and animal and vegetable physiology; the second embracing polytechnic science, with its subdivisions; the third a school of design and chemistry as applied to manufactures; and the fourth devoted to architecture, antiquities, and sculpture. In the following year ninety acres were acquired at a cost of £342,500, upon which now stands the Albert Hall, the Royal College of Music, the Imperial Institute, the Imperial College of Science and Technology, the Natural History Museum, and other educational buildings; thus, as our correspondent points out, more than realizing in the material, if not in the spirit, the intention expressed by the Prince Consort in 1851. It will be observed, first, that a site larger either than that at Holland Park or Bloomsbury was acquired for purposes of higher education and research seventy years ago, and secondly, that physiology was among the subjects of research and instruction to which it was at that time proposed to devote the site.

A WAR SECTION OF THE WELLCOME MUSEUM.

A SECTION illustrating naval and military medical service during the war has been added to the Wellcome Historical Medical Museum. It is not of great dimensions, but is an assembly of some typical exhibits, which may yet be enlarged by the loan of trophies by ex-officers and others. Ambulance arrangements are the subject of a gallery of photographs so selected and placed as to tell a story instead of bewildering the visitor with a jumble of impressions. Every kind of transport for the wounded seems to be included in these pictures, from the well-equipped hospital train to the mule *travois* of the Balkans and the camel cacolet of further east. Naval ambulance, which was fully described in a series of articles published in the BRITISH MEDICAL JOURNAL of April 28th, 1917, is illustrated by photographs, models, and an example of the slung cot used both ashore and afloat. A number of contemporary drawings and paintings have found a home in Wigmore Street. In contrast to Matania's sketch of the aerial transport of the wounded on the Italian (Alpine) front, there are the post-cards coloured by a R.A.M.C. sergeant with the help of Condy's fluid and tincture of iodine. A collection of orthopaedic appliances is a feature of the section. The curator, Mr. C. J. S. Thompson, is justifiably proud of having secured a number of articles in papier-mâché, leather, and common canvas, which were worked by the skilled fingers of the English ladies in the Palazzo Centurione in Rome. Various protective devices are on view, including smoke helmets, anti-gas apparatus with respirators, the masks and gloves used to guard against the back-flash of big guns, and various kinds of goggles; one pair of these, as a protection against shell splinters, is on the principle of the Eskimo snow spectacles, with the narrowest possible slits for vision. Some of the exhibits go back earlier than the recent war. The telephone probe is supposed to have originated with Graham Bell, and to have been first applied in this country by Mackenzie Davidson. But it was anticipated to some extent by Sir Thomas Longmore, and the instrument which he devised in the middle of the nine-

teenth century is here on exhibition; it is a bullet-detector in which a compass is employed to signify by the deflection of its needle when contact is made between the dependent probe and the foreign body. Another exhibit consists of field dressings, including the compressed bandage used in the Crimean war, the first antiseptic wound-pad, dated 1883, and the first field-dressing served out in 1914; also a bandage prepared from the bark of a tree by the Germans in East Africa. The contents of a German field valise are well worth study for the compactness and ingenuity of the arrangements. In the surgical instrument case the distinctive outline of each instrument is marked on the outside of the pocket into which it is to go, so that there may be no mistake in replacement. One case is filled with hospital equipment taken from a German cruiser in 1918. One of the U-boats has yielded up to the Wellcome Museum its oxygen cylinders and attachments. Lastly, there is a replica, in gilded copper, of the mace presented to the American College of Surgeons by the consulting surgeons of the British armies in memory of mutual work and good-fellowship in the great war.[1] It has been finished by hand by Mr. Omar Ramsden, the gifted worker of the original. The Curator is indebted to Surgeon Captain M. Knapp, R.N., and Lieut.-Colonel Brereton for their kind assistance in procuring and describing many of the exhibits.

THE POSITION OF THE FINE CHEMICAL INDUSTRY.

THE Association of British Chemical Manufacturers is circulating a memorandum on the present position of the fine chemical industry. The facts and arguments are on similar lines to those in the pamphlet issued from the Society of Chemical Industry already noticed in these columns. It is stated that British chemists, as a result of the stimulus imparted by the war, have brought the manufacture of the chemicals used in research and in photography, and of certain synthetic perfumes and essences, to the verge of commercial success, while the manufacture of drugs has made immense strides, and would have made greater had not the Order in Council prohibiting the importation of drugs been set aside by the Sankey judgement. The hope is expressed that the Key Industries Bill, which has been promised as a Government measure of the new session, may do for fine chemicals what has already been done for dyestuffs by the Act recently passed; that is to say, that some protection may be granted to the manufacturers of fine chemicals until they have consolidated a position which has been hardly won and which is still precarious. The insecurity arises from the fact that there are circumstances, including the great priority of organization, and also the present state of the exchanges, which favour the German laboratories. The national importance of this industry in peace and war is pointed out, and it is also stated that, excluding coal-mining, the fine chemical industry yields the highest net value of output per person employed.

THE WAR FINANCE OF THE RED CROSS AND ST. JOHN.

THE accounts of the Joint War Finance Committee of the British Red Cross Society and the Order of St. John from October 20th, 1918, to June 30th, 1920, have been issued, together with a final report on the financial operations of the Committee, and a summary of accounts from October 20th, 1914, to June 30th, 1920. The latter will be included in a detailed record of the whole war work of the joint organization which has been in preparation since the Armistice, and will be published shortly. The joint organization of the two corporations, set up for the purposes of the war, was placed under the financial control of a Finance Committee, which was presided over by Sir Robert Hudson, G.B.E., and annual accounts were rendered throughout the war. Some idea of the magnitude of the financial work which fell to the Finance Committee will be gained from the fact that it has had to account for receipts amounting to £21,885,035 and expenditure £20,058,355. Of the receipts £16,510,023 were received in money from the public and £1,027,280 in kind; Government grants, interest, and various receipts from other bodies make up the total. The chief items of expenditure were £2,053,501 for the transport of wounded; £2,928,367 for hospitals, not including local expenditure on the auxiliary home hospitals; £5,017,285 for stores; £5,147,876 for prisoners of war, and £2,717,927 for post-war schemes for sick and disabled ex-service men and kindred objects. These last services were provided by the Red Cross and St. John Act of 1918, which governs the disposal of any surplus. The surplus on June 30th last amounted to £1,826,680. Claims upon the surplus on behalf of the wounded will continue to be received for a long time to come, and the Committee in its report foreshadows the development of a scheme throughout the country for the benefit of disabled ex-service men. Copies of the accounts can be obtained from the inquiry office 19, Berkeley Street, W.1., at the price of 1s. each.

[1] BRITISH MEDICAL JOURNAL, October 16th, 1920, p. 597.

THE Morison Lectures will be delivered before the Royal College of Physicians of Edinburgh by Sir Frederick Mott, F.R.S., on Monday, Wednesday and Friday, March 7th, 9th, and 11th, at 5 p.m. on each day. The subject of the course is "The Psychopathology of Puberty and Adolescence." The lectures will be illustrated by drawings and lantern slides. The first lecture will deal with the reproductive organs in relation to the endocrine glands and the autonomic nervous system; the second and third with the pathology of dementia praecox.

A NEW edition of Liddell and Scott's *Greek Lexicon* has been on the stocks since October, 1911, when Mr. Henry Stuart Jones was appointed editor. He has had the assistance of many specialists and a large number of voluntary readers who have undertaken to read for the dictionary. Among the specialists who have given their help are Sir W. Thiselton-Dyer, F.R.S., who has an extensive acquaintance with Greek botanical terms, and Dr. E. T. Withington of Oxford, who has read the whole of the voluminous literature of Greek medicine, with the result that practically all the articles on medical terms have been rewritten and considerable additions have been made to the vocabulary of the subject. Recently Mr. Roderick Mackenzie has been appointed assistant editor, and the Secretary to the Delegates of the Oxford University Press has announced that it is hoped shortly to begin the printing. It is proposed to issue the new edition in ten parts of about 200 pages each, price 10s. 6d. a part, or a subscription price of four guineas. As the total outlay, it is estimated, will approach £20,000, it is unlikely that the sales will total this amount.

Medical Notes in Parliament.

Dangerous Drugs: Draft Regulations.

SIR THOMAS BRAMSDON asked the Home Secretary, on February 17th, if, in formulating the draft regulations for the sale, prescribing, dispensing, and distribution of cocaine, ecgonine, morphine, heroine, and opium (medicinal), the British Medical Association, which represented and spoke for over 22,000 medical men, were not consulted; if he were aware that the proposed draft regulations were regarded by medical practitioners throughout the kingdom as impracticable; that if Clause 13 of the proposed regulations were strictly carried out it would be impossible for medical men to obtain those drugs from wholesale chemists by train or through the post; and that, however urgently needed, it would be impossible for a doctor to obtain these drugs by telephone message; and if he were prepared to submit the regulations for consideration and amendment to a committee composed of representatives of the Home Office, the Ministry of Health, the British Medical Association, and the Pharmaceutical Society, as well as of the

Veterinary Surgeons, as representing all the interests concerned in dealing with these drugs.

Other questions of a similar character were put by Lieut.-Colonel Hurst, Mr. Johnston, Mr. Trevelyan Thomson, Lieut.-Colonel W. Guinness, Mr. Clough, Sir Harry Hope, and Major Sir Bertram Falle. Sir John Baird, Under Secretary for the Home Department, made a statement on behalf of the Home Secretary. In the first place, he said, the Regulations were at present in draft only, and would not come into operation until they had been formally made. They were issued first in draft for the express purpose of giving all parties interested the opportunity of expressing their views before they were finally made. The criticisms that had been directed against the department for not having consulted this body or that before issuing the Regulations were, he thought, a little misplaced. Representations had been received from a number of bodies, and these were being carefully considered. Regulation 13 would be amended so as to make the meaning perfectly clear. Apart from these considerations a number of important points had been raised, and these were being, or would be, discussed with the representatives of the interests concerned. As regards the application of the Regulations to agriculture, the Home Secretary was in consultation with the Minister for Agriculture. Sir John Baird went on to say that the Regulations were proposed in order to carry out the obligations which the Government had undertaken under the International Opium Convention and the Treaty of Versailles to confine the uses of the drugs in question to medical and other legitimate uses. Parliament gave express powers for the purpose in the Dangerous Drugs Act of last session. The need for additional restriction, in view of the prevalence of the drug habit, would be generally admitted, but it was not the Home Secretary's desire or intention to impose any restrictions beyond what was necessary to effect the purpose; it was to meet the views that had been submitted to a very large extent. When the Regulations were finally made they would be laid before Parliament, and Parliament would have an opportunity of discussing them if it so desired. On further questions, Sir John Baird stated that the Home Secretary had promised to receive a deputation. The Home Secretary expected to be able to place the Regulations on the table in the course of next month. The matter was rather urgent, because, in the event of the treaty with Turkey being ratified, the Regulations under which restrictions were now exercised on the sale of opium and cocaine would lapse.

Medical Records.

Sir J. D. Rees asked, on February 21st, whether the new record card had been dropped, "in view of the almost universal objection entertained to this development of social reform." Dr. Addison replied in the negative, adding that from about 10,000 approved societies and branches he had received only five protests; out of 150 Panel Committees (representing insurance practitioners), five representations, mainly on points of detail; while from Insurance Committees (which administered medical benefit in every county and county borough) he had received no protest whatever; one large Insurance Committee, which had before it a resolution disapproving of the new medical card, rejected the resolution by 21 votes to 2. In reply to Sir D. Hall, Dr. Addison said that the annual cost of the records would be a small sum, and certainly considerably less than that of the old medical record card and doctor's register card, both of which would be replaced by the single new permanent record card. The cost of running the London Hospital in 1919 was £221,000, whilst the total initial cost to Insurance Committees—a charge which would not recur—for filling in and sending the record card to all the practitioners in England and Wales was estimated to be £19,000. Sir D. Hall inquired whether already under the new system of medical records of insured patients there had been cases of patients foregoing their benefits and incurring the expense of a private doctor rather than submit to a record of their complaints being made by the panel doctor on the record cards. Dr. Addison said he understood that allegations to the effect stated had been made in some two or three cases only out of a total of millions of insured persons. The fact that medical men, approved societies, and Insurance Committees, as well as insured persons having first-hand knowledge of these matters, had remained quite unmoved by the recent agitation was convincing proof of its unreal character.

The medical members of the House of Commons met on February 21st to consider the matter of the new medical record cards. Dr. Nathan Raw presided. A resolution was passed declaring that the principle of keeping a record was likely to result in permanent advantage to the insured person; and a further motion was adopted setting forth that the most jealous regard should be maintained for professional secrecy. In this connexion it was decided that a question should be addressed to Dr. Addison with the object of ascertaining whether or not the records could be called for in a court of law.

Lieut.-Colonel Fremantle asked the Minister of Health, on February 23rd, whether, prior to directing medical practitioners under the National Insurance Act to place certain confidential entries on medical history cards, he had consulted, or would consult, the law officers of the Crown as to whether the practitioners would be guilty of violating secrecy, and be liable to actions for libel if such entries were entrusted by them to private secretaries in accordance with their usual practice. Dr. Addison replied: I am advised that in the circumstances mentioned it is in the highest degree unlikely that there would be any cause of action against the doctor, unless he were shown to have been actuated by malice. The general question as to the position in the law of medical secrecy was submitted by me to the Lord Chancellor in June last year, and the matter, which raises very important issues, is being considered.

Lieut.-Colonel Fremantle also asked the Minister of Health if he had obtained, or would obtain, the opinion of the law officers of the Crown as to whether subpoenas might be granted, compelling the production of medical history cards in legal proceedings, and whether panel practitioners concerned in their preparation might be called upon to support the statements therein made. Dr. Addison replied: I am advised that though a person may be compelled by means of a subpoena duces tecum to bring any document, private or otherwise, to the court, the document itself does not thereby become admissible in evidence. A record card is, I am advised, not evidence of the facts stated in it, and if it is desired to prove them, this must be done in the ordinary way—namely, by the oral evidence of the doctor himself.

The Dogs Bill Reintroduced.—Sir Frederick Banbury, on February 18th, again introduced a bill to prohibit the vivisection of dogs. It was backed by Sir John Butcher, Colonel Burn, and Mr. Joseph Greer, and having been given a first reading, was put down for second reading on Tuesday, April 12th. Sir Frederick chose a date after Easter in anticipation that the Government would absorb all available time until Easter; and he was not fortunate enough in the ballot to be able, in seeking a later date, to get a Friday soon after Easter, which may be taken as the reason why he chose a Tuesday, which in the ordinary way will not give him an opening until the evening. The Friday sittings begin at noon.

Income Tax.—Mr. Chamberlain states that he hopes early in the session to introduce a bill dealing with certain important recommendations of the Royal Commission on Income Tax, and to include in this bill a recommendation as to the three years' average. He does not hope to change the law in time for the change to be operative in the coming financial year, but that he will get the legislation through so that the change may apply in the financial year following the coming one. The three years' average had been very much in favour of the taxpayer, who had had the advantage of it during the last seven years, and he must put up with it for one year longer although it might possibly rsult to his disadvantage.

London University: New Buildings.—Sir J. D. Rees asked, on February 21st, whether it was proposed, in view of the present state of the finances of the country, to give any assistance from public funds towards the acquisition of a site for, or the construction of, a new building for the University of London. Mr. Chamberlain replied that last October London University accepted the Government offer, made in the preceding April, of a site behind the British Museum, and the site had been purchased. For the funds required for building the University headquarters the University must look primarily to public generosity, but it would be open to the University Grants Committee to supplement local contributions if the funds at their disposal allowed.

The Murder of Canon Magner.—In regard to the case of Cadet Hart of the Auxiliary Division of the Royal Irish Constabulary, who was tried by court-martial on January 5th for the murder of Canon Magner and Mr. Timothy Crowley, Sir H. Greenwood stated on February 17th that the cadet was convicted of murder, but found to have been insane at the time of the commission of the crime. The medical experts who made this report were Colonel W. G. Beyts, C.B.E., A.M.S., A.D.M.S., Cork; Lieut.-Colonel Nicholls, R.A.M.C., Medical Officer, Cork Detention Barracks; Dr. William Dawson, M.O., H.M. Inspector of Asylums, Ireland; Dr. M. Hamblin Smith, Medical Officer, H.M. Prison, Birmingham; Dr. East, M.D., Medical Officer, Liverpool Prison, and Dr. Dyer, M.D., Medical Inspector of Prisons.

Chinese Flour.—Dr. Addison, on February 17th, answering several questions in regard to the use of Chinese flour in this country, said newspaper reports had alleged that cases of illness (especially skin eruptions) had occurred owing to the consumption of bread made from Chinese flour. Inquiries he had caused to be made had failed to establish any causal connexion between the flour in question and the illness complained of. Examination of some of the cases of skin eruption showed that they were due to scabies. In the samples of the flour examined, no flour other than that of wheat had been detected, and the condition of the samples, on the questions raised as to contents, was satisfactory.

Milk and Dairies Bill.—In answer to Mr. Swan, Dr. Addison said that it was not at present proposed to reintroduce the Milk and Dairies Bill during the present session.

ASSOCIATION OF PUBLIC VACCINATORS.

ANNUAL MEETING.

THE annual meeting of the Association of Public Vaccinators of England and Wales was held at the Queen's Hotel, Leeds, on January 28th, when Dr. C. J. PALMER (Mansfield) was in the chair. The report and balance sheet were approved and adopted. It was noted with satisfaction that the circular letter recently addressed to boards of guardians had in some cases been effective in securing an increase of fees for vaccination. The officers and council were elected for the ensuing year. Votes of thanks were accorded the retiring president (Dr. C. J. Palmer), the editorial secretary (Dr. A. Drury), and the organizing secretary (Mr. F. A. Briggs), for their valuable help during the past year. Dr. A. T. BACON (Leeds) was elected president, and received a hearty welcome on taking the chair vacated by the retiring president.

At the conclusion of the formal business a very interesting address was given by Dr. W. MCCONNEL WANKLYN on "The abolition of small-pox." Dr. Wanklyn's experience in dealing with small-pox outbreaks lent much importance to his address. He observed at the outset that his aim was to keep out small-pox, which was identical with the aim of vaccinators. The true policy and objective, he considered, was to attack small-pox, throw it out of the country, and keep it out. The year 1904 might be looked upon as a landmark in the control of small-pox in London. Thousands of lives and vast sums of money had been saved by the system then adopted, whereby suspicious cases could be seen at their homes at the very outset in consultation with the medical attendant. This led to the early recognition of cases. Early diagnosis was of the greatest importance. Dr. Wanklyn then depicted the natural history of small-pox. Recent prevalence showed that, though the periods of comparative quietness had been longer than formerly, there was still a definite risk of an epidemic. The risk was increasing, since infection was frequently imported and the susceptibility of the population was increasing. Paying a high tribute to the courage and bravery of the men of the Notts, Derby, and Leicester regiments, Dr. Wanklyn said he found himself attached to a division largely composed of these men during the war, practically all of whom were antivaccinators and opposed to inoculation against enteric. He talked to the men, gave them lectures, and found them willing to drop their objections; many thousands were vaccinated, and 95 per cent. of the division were inoculated. He urged the importance of instructing the laity. Every human being born was susceptible to small-pox. There was a world prevalence of small-pox at the present time, and all the trade routes lead to this country. A chart showed its prevalence in various parts of Europe, India, Japan, United States, Egypt, Africa, and Brazil. The cost of small-pox, which was enormous, must be reduced at once by the proper adoption of preventive measures, which were outlined. There was a possibility any time now of an epidemic of small-pox on a big scale. Once begun and established, the cost to the country of such an epidemic would amount to many millions of pounds. It would be calamitous to life, to business, to efficiency, to finance, and general health administration. It was our duty to do all things possible to prevent such a calamity.

ANNUAL DINNER.

In the evening the first annual dinner since 1914 was held, and there was a good attendance of members and friends. Dr. A. E. COPE (London) proposed "The President," to which Dr. BACON replied. "Our Guests" was proposed by Dr. DRURY (Halifax). The replies were given by Dr. J. R. KAYE (County Medical Officer, West Riding), Professor J. KAY JAMIESON (Dean of the Faculty and Professor of Anatomy, Leeds University), and Dr. W. MCCONNEL (London). A most enjoyable entertainment was provided; Miss Marjorie Abercrombie gave songs, and Miss Margaret G. Drury a recital of serious and humorous selections.

A CONGRESS of school hygiene will be held in Paris next April under the presidency of Dr. Méry. Dr. Dufestel has been appointed vice-president and Drs. Genevrier and Mathé secretaries.

England and Wales.

LEICESTER PUBLIC MEDICAL SERVICE.

THE report of the Leicester Public Medical Service for 1920 has been issued and records the continued success of its work, the rate per capita paid to "acting members" of the service showing a substantial advance. The arrangement has been continued whereby free medical treatment is provided for the uninsured blind of Leicester, as has also been the co-operation with the Education Committee for carrying on the school clinic work at the central dispensary.

The annual report of the Leicester Subdivision of the Union of Medical Practitioners shows that the scheme of collective locumtenencies for the summer holidays, which was inaugurated during 1919, was successfully continued during the summer of 1920. Twenty doctors availed themselves of the facilities afforded, contributing to a pool which was distributed among the practitioners who attended patients under the scheme. Alterations have been made in the Public Medical Service rooms in order that they might be used as a club for the medical men of Leicester and the county. The rooms have been furnished, gifts of furniture, books, and pictures having been received, and billiard, reading, and writing rooms have been provided. The club is now called the "Leicester Medical Club," and is conducted by a committee, of which Dr. C. C. Binns is honorary secretary and treasurer.

SHEFFIELD EDINBURGH UNIVERSITY CLUB DINNER.

On Saturday, February 19th, the Sheffield Edinburgh University Club held its tenth annual dinner, the first since 1914. Dr. G. Scott Davidson, president of the club, was in the chair, the croupiers being Drs. Blyth, Murray, and Anderson. The guest of the evening was Professor Caird of Edinburgh, and a company of just 100 members and guests was present to meet him. The toast of the Alma Mater was given by Dr. Yates in a charming speech reminiscent of his student days in the faculties of Arts and Medicine at Edinburgh. Professor Caird, in his reply, told delightful tales of those far-away days of the early seventies when he himself was a student. He was especially happy in his memories of "Old Woody Fibre" (Professor Hutton Balfour), "Dismal Jimmy" (Professor Spence), Pat. Watson, and Joe Bell. His story of the workman from the Forth Bridge who entered Bell's clinic carrying in his pocket a handkerchief which had been slyly soaked in ammoniacal urine by a student, thereby causing Joe Bell to make a wrong diagnosis for once, was greatly appreciated. He referred to the overcrowded condition of the university at the present time, and to the probability of an early rise in the fees at the university. The toast of the guests was given by Dr. Peck and responded to by Professor Leathes and Colonel Connell.

CENTRAL MIDWIVES BOARD.

The Central Midwives Board met on Thursday, February 17th. A special meeting was held first, at which five midwives were struck off the roll.

At the ordinary monthly meeting, when Sir Francis Champneys was in the chair, in reply to a letter from Dr. Comyns Berkeley, a minute was adopted stating that the Board had given very careful consideration to the request from the majority of its examiners for an increase in examination fees; but having regard to the fees paid by other examining bodies for work of a similar nature, and to the fact that the amount of the fees payable by candidates is limited by statute, the Board regretted that it did not see its way to grant an increase at the present time. Should the Board at some future time be enabled to increase the fees payable by candidates, it would reconsider the question of increasing the fees of its examiners. An application from the authorities of the Eden Hospital, Calcutta, that the hospital might again be approved as a training school was granted. In reply to an inquiry as to the jurisdiction of a local supervising authority to inquire into the conduct of a midwife when acting as a monthly nurse, the Board replied that the authority had jurisdiction to consider a charge of misconduct (other than professional misconduct), if such misconduct tended to

unfit the midwife for the discharge of her duties as a midwife; this jurisdiction was not ousted by the fact that when guilty of such misconduct the midwife was not acting as either a midwife or as a monthly nurse. In the opinion of the Board, however, the Midwives Acts confer no jurisdiction upon either the Central Midwives Board or the local supervising authorities to investigate charges of malpractice, negligence or professional misconduct preferred against a midwife when acting as a monthly nurse, unless her conduct constitutes a violation of Rule E. 6 of the Board's rules.

Scotland.

Edinburgh University Chemical Laboratories.

Although it is only a year since the work of building the chemical laboratories of the Edinburgh University at Liberton was commenced some of the rooms are already in occupation. Apart from the front portion of the building where the administrative offices and the library are situated, and which is in two stories, the building is of one story, and all the laboratories are lighted from the roof.

At present only the advanced chemistry students are accommodated at Liberton, but eventually when the buildings are completed the whole of the chemistry department of the University will be transferred to this site. At a later period buildings will be erected there to accommodate the Geology and Zoology Departments. There is a long central corridor from which the several laboratories open on one side. The buildings on the other side have yet to be erected. The laboratories are economically but fully equipped. There is ample bench accommodation for each student. Opposite his seat and at the level of his head is a draught hole which draws fumes into a system of air ducts. Leading off a long corridor parallel to the main corridor are research rooms, where advanced research students may carry on their individual work. The laboratories are under the supervision of Professor Sir James Walker.

Glasgow Royal Asylum.

At the annual meeting on February 17th, of contributors to the Glasgow Royal Asylum, Dr. Oswald, physician superintendent, in a written review of the year's work, pointed out that a preponderance of female over male admissions, was, as in the previous year, a striking and remarkable feature. The only possible explanation seemed to lie in the fact that women nowadays were taking a much more active part than formerly in community life, in consequence of which a much greater strain was thrown on them, with the not unnatural result that there were a greater number of so-called nervous and mental breakdowns. It seemed, too, as though a contributory factor might be the reaction following the stress of war years. Dr. Henderson, assistant superintendent, said that the great difficulty in regard to mental treatment was that they could not get the patient to seek medical advice early enough. He thought that much good might be done if out-patient mental clinics were established, just as we had out-patient clinics for physical diseases. He urged also the desirability of occupational departments associated with mental hospitals, but separated from the wards of the institution.

Carnegie Universities Trust.

The annual meeting of the Carnegie Trust for the Universities of Scotland was held in a committee-room of the House of Lords, on February 9th, with Lord Balfour of Burleigh in the chair. Lord Balfour said that the principal event of last year was the allocation of grants for the quinquennial period of 1920–25. In addition to the £200,000 from income, it had been resolved to allocate from the reserve fund £49,000. The explanation of this was that during the war the students at the universities were fewer, and therefore the trustees saved on the payment of fees. It would have been absurd to save that money and put it to the reserve, when many of the same students were coming back after the war and wanted it. The trustees thought it right, as a temporary measure, to take it out of the reserve fund, and give it to them to pay their fees. Under the research scheme it had been agreed that as an experiment for a period of three years the following annual grants be offered to the universities to be spent in payment of half the salaries of persons engaged as part-time assistants or lecturers on condition that they devoted not less than half their time to research, and that the universities should contribute the other half of the salaries from other sources—Glasgow and Edinburgh £1,000 each, St. Andrews and Aberdeen £800 each. It was hoped that much good to the universities would result from this combination of teaching and research, and the scheme had been well received by the universities. Although the amount available for assistance to students was now fully £60,000, there was a deficit of £8,538 for 1919–20. The universities were now increasing their tuition fees, and as a result the poor student would be poorer than ever. Thus the difficulties were very great. For many years the trustees had been able to pay all eligible applicants the whole of their class fees, but in 1911–12 they had had to have an allowance system, because the income would not cover the whole of the fees, and since then the trustees had been paying only a part of the fees. The situation would be further changed in the current year owing to the increase in tuition fees.

The discussion, in which Lord Haldane, Lord Sands, and others took part, centred chiefly in the problem of allocating assistance to the students. It was agreed that steps must be taken to eliminate from the beneficiaries of the fund those applicants whose circumstances were such as to render assistance unnecessary. Proposals were made for strengthening the declaration made by applicants and for an inquiry into individual circumstances. The suggestions were discussed, but a decision will not be reached until the alternatives have been further considered in the light of the views expressed by university authorities and others interested.

East of Scotland Overseas Medical Club.

The second annual dinner of the East of Scotland Overseas Medical Club was held in Edinburgh on February 18th, when Professor Francis Boyd, C.B., C.M.G., president, was in the chair. There was a large gathering, many from distant parts of Scotland. The guests included Lieut.-General Sir Francis Davies, K.C.B., G.O.C. Scottish Command, Surgeon Rear-Admiral J. Stenhouse, R.N., Colonel Browne-Mason, D.S.O., D.D.M.S. Scottish Command, Mr. T. Kay, D.S.O., M.D., president of the West of Scotland Foreign Service Medical Club. Apologies were received from Sir John Goodwin, K.C.B., D.G.,A.M.S., Colonel P. S. Lelean, C.B., C.M.G., and others. Amongst those present were Drs. T. F. Dewar, C.B., Henry Wade, C.M.G., D.S.O., Morrison McIntosh, C.M.G., C. E. Douglas (Cupar), R. A. Fleming, W. A. Taylor (Perth), William Haig, D.S.O. (Crieff), James Young, D.S.O., David Lees, D.S.O., J. F. Crombie, D.S.O., George Rae Gibson, D.S.O., Pirie Watson, O.B.E., D. P. D. Wilkie, O.B.E., J. W. Mackenzie, O.B.E. (Inverness), A. L. S. Tuke, M.C. (Dunfermline), W. T. Gardiner, M.C., Stewart Hodgson, M.C. The toast of "The Imperial Forces" was proposed by Dr. C. E. Douglas of Cupar, who recalled the time when this toast embraced the Navy, the Army, and the Volunteer Forces, and when the mention of the last was apt to be received with a smile. Those times had changed, and nowadays this toast might be considered as embracing within its compass the whole nation. Lieut.-General Sir Francis Davies, who responded, referred to the services rendered by the medical profession during the past war, and especially to the way in which the civil practitioner had forsaken everything to dedicate his services to his country. The regular medical branch of the Army was greatly the better for his inclusion. Whilst he was at the War Office he was greatly impressed by the many striking instances of gallantry shown by medical men which came before him for recognition. The President proposed "The Club," and in doing so referred to its thriving state. It possessed about 200 members, all of them medical men who had served overseas during the past war. Amongst its many advantages the greatest was that of bringing together men who had worked together on the field of battle and in overseas hospitals. The toast of "The President" was proposed by Dr. George Rae Gibson. Dr. C. E. Douglas of Cupar was elected president-elect, and Drs. W. T. Gardiner, M.C., and Pirie Watson, O.B.E., were elected to the committee in place of T. F. Dewar, C.B., and Henry Wade, C.M.G., D.S.O. The secretary is Dr. James Young, D.S.O., Edinburgh.

Ireland.

REPORTS ON WOUNDED IN DUBLIN HOSPITALS.

On behalf of certain Fellows and Licentiates of the Royal College of Surgeons, Ireland, affected by the military Order recently issued requiring them to furnish daily particulars of wounded persons under their care in hospital, a communication has been addressed to the Council of the Royal College stating that the Licentiates and Fellows of the College and the Irish profession generally would be glad for an expression of opinion by the Council regarding the military Order referred to and asking the Council to make representations to the military authority to have the Order revoked. Fellows and Licentiates of the College, and other members of the profession, have expressed strong opinions with regard to the breach of professional confidence involved in giving effect to the military Order, and for this and other reasons feel serious objection to furnishing the information required by the military authority. That authority, however, has stated that failure to comply with the Order will render the medical practitioners concerned liable to be proceeded against for an offence against the Restoration of Order in Ireland Regulations. The republican army in Ireland have countered the military Order by intimating to the doctors concerned that should they obey the Order such doctors will be treated as spies.

It was also brought to the notice of the Council that Poor Law medical officers, a large proportion of whom are Fellows and Licentiates of the Irish College, have not received any portion of their salaries, in some cases, for almost twelve months. At first sight it may seem that this condition of affairs is due to the deadlock between the Local Government Board and the local authorities, and that the trouble could be got over if the local bodies would only administer the necessary statutes, including the Malicious Injuries Amendment Act. These Acts, however, provide that all awards for malicious injuries, including those committed by the Crown forces, shall have first claim on the funds of the local authorities. In effect, this means that the entire salaries of the Poor Law medical officers, in most counties, are set aside in order to meet claims for malicious injuries. The local authorities, assuming they complied with the statutes, are asked to do what is financially impossible—namely, to raise a rate sufficient to meet ordinary expenditure as well as the amount awarded for malicious injuries, which, in many counties, would mean £2,000 rates on a farmer with £100 Poor Law valuation. As long as these conditions exist, there seems to be not the remotest chance that a Poor Law medical officer, in the majority of Irish counties, can receive his salary or any portion of it. Irish health services, under the Medical Charities Acts, would have ceased to be administered six months ago only that the Poor Law medical officers continued to give their services; they did this notwithstanding that, owing mainly to the diversion of health grants to other purposes under the recent special Acts of Parliament already referred to, their salaries were not paid.

The slender resources of the average Poor Law medical officer will not, however, permit him much longer to carry out his work on the present terms. This contingency has already been brought to the notice of the Chief Secretary, who is Minister of Health for Ireland. His reply held out no hope that there was any intention on the part of the Government to alter or amend existing legislation so that a way out of the present difficulty may be found. The result is that fully 30 per cent. out of the 50 per cent. of the population of this country who are dependent for their treatment on the Poor Law medical officers—as such—are at the present moment unprovided for as regards medical treatment. Legislation amending the recent statutes, which are responsible for the diversion of health grants and other funds from the purposes to which they were hitherto applied, is the only remedy if the necessitous one-fourth of the population of Ireland are not to be left without medical treatment of any kind.

ARRESTS OF MEDICAL MEN.

Dr. Thomas F. Higgins, F.R.C.S.I., coroner for Queen's County and medical officer of the Stradbally district, has been arrested by the Crown forces; he is over 70 years of age. His son, Dr. T. Higgins, Maryborough, has been interned for some months without being brought before a court-martial. Dr. Ryan, Wexford, has been transferred from Waterford Gaol for internment in the Kilworth Camp, co. Cork. His wife, Mrs. Ryan, has also been arrested; the reason assigned is that she objected to a military proclamation being posted on one of her windows. The military authorities in many of the southern towns make it a practice to post proclamations on windows, holding the inhabitants responsible in case of their being torn down or effaced.

ACIDAEMIA.

At the meeting of the Ulster Medical Society on February 18th, when the President, Dr. Thomas Houston, O.B.E., occupied the chair, Sir Almroth Wright, K.B.E., C.B., F.R.S., gave an address on the pathology and treatment of acidaemia. He first mentioned a number of instances of acidaemia—a rabbit to which was administered an excess of hydrochloric acid; a guinea-pig fed on a specially restricted diet; cases where the body itself produces the acid as in diabetes, and the acidaemia in gas gangrene and in shock. When these were examined it was seen that they could be classified as (1) myogenous and (2) non-myogenous. If a muscle was deprived of its blood supply, lactic acid at once began to collect owing to the deprivation of oxygen; a local acidity was thus produced in the muscle, and this he called "acidosis"; if the blood supply returned, this lactic acid was swept into the circulation and "acidaemia" ensued; the simplest illustration of this was when an artery was ligatured; the same result followed in the application of a tourniquet or of an Esmarch's bandage; it also occurred when an animal was submerged in ice-cold water; here the "somatic" circulation failed and the visceral alone remained; there was an asphyxia of muscle. If a heart failed owing to a microbic poison, or if a patient collapsed, as after wounds and exposure, or after a long operation, a similar condition was produced; among the dangers after an anaesthetic was collapse. Different animals were differently affected. Some, as the rabbit, were very susceptible; some, like the cat with its nine lives, were the reverse; no doubt human beings also varied. When a person, collapsed from injury and long exposure to cold, was brought into hospital, if the somatic circulation slowly returned, then the lactic acid was oxidized; but if the heat was brought back rapidly by artificial means and the limbs massaged, the patient was liable to develop acidaemia. A frost-bitten part is rubbed, not heated by applications. In conditions of shock, fluid introduced into the blood vessels escaped with great rapidity, whereas, if it were introduced before the onset of shock it was retained. In shock there was a polycythaemia in the capillaries, due probably to the rapid escape of the fluid, so that the heart had a heavier weight to drive. The essential point in treatment was to prevent the onset of shock—to try to anticipate it. Colnheim had shown that the blood might be diluted many times in an animal without its rapidly escaping, so that before a long operation with an anaesthetic was attempted the alkalinity of the blood should be tested, and the operation postponed if the result were not satisfactory; then would be the time to prevent the onset of shock; medicinally, sodium lactate should be given. In cases of shock a rapid recovery had been obtained by intravenous injection of an alkali, but these patients were liable to relapse, owing probably to developing acidaemia. Cannon found that cases of gas gangrene and shock had marked acidaemia; the gangrene bacillus did not grow in alkaline muscle; it would not grow in a healthy rabbit, but if a rabbit were killed after inoculation and its body put in an incubator, rapid growth took place so that it became distended with gas. In concluding his lecture Sir Almroth urged the necessity of advancing step by step in our investigations. The *saltus empiricus* was to be avoided by all true scientific followers; they must be content with the *passus scientificus*.

Dr. R. J. Johnstone, F.R.C.S.Eng., proposed a hearty vote of thanks to the lecturer; this was seconded by Dr. J. E. MacIlwaine, and passed by acclamation.

ULSTER MEDICAL SOCIETY.

At the annual dinner of the Ulster Medical Society, held in the Medical Institute, Belfast, on February 17th, when the President, Dr. Thomas Houston, O.B.E., occupied the chair, the chief guest was Sir Almroth Wright.

The toasts were "The King," proposed by the President; "The Lord Mayor and the Corporation of Belfast," proposed by Professor Lindsay, F.R.C.P.Lond., and responded to by the High Sheriff; "Our Guests," proposed by the President, who expressed the great pleasure of the society in seeing Sir Almroth once more amongst them, and their deep obligation to him for stimulating them with his keen scientific mind. He outlined some of Sir Almroth's work in typhoid prevention and, during the great war, in wound sepsis. Sir Almroth, in reply, emphasized the fallaciousness of experience and the necessity of experiment. Dr. Fleming also replied. "The Legal Profession" was given by Dr. J. S. Morrow, and acknowledged by the Recorder of Belfast and the President of the Law Society. "The President" was proposed by Dr. MacIlwaine, and Dr. Houston in his reply said that much of the success and of the excellent arrangements of the dinner were due to the editing honorary secretary, Dr. Robert Marshall, who took Dr. W. W. D. Thomson's place during the prolonged illness of the latter, who, he was glad to say, was now much better. He proposed Dr. Marshall's health, and offered him the thanks of the society. Dr. Marshall replied.

Correspondence.

SURGERY OF BREAST CANCER.

SIR,—Mr. R. H. Parry's demonstration (January 15th, p. 99) of the presence of malignant cells in the supraclavicular glands in five out of six selected cases of breast cancer is a most important fact, since the cases were specially chosen as presenting no clinical signs of supraclavicular infection.

Mr. Parry and I have, by different roads, reached the same conclusion—namely, that no operative method for breast cancer is satisfactory which does not as a routine take steps to counter infection of these glands. It might have been hoped that post-operative *x*-ray treatment would have proved adequate for the purpose, but experience shows that this is not the case, at any rate with present *x*-ray methods.

The choice appears to lie between routine removal of the supraclavicular glands as part of the primary operation, as advocated by Mr. R. H. Parry and Mr. Charles A. Morton, and the routine use of buried radium as described in my article. It will not be possible for several years to decide on the relative merits of these two methods, and it is well for the present that both should be practised. Personally, I am hopeful about the buried radium method and intend to adhere to it. In view of the striking shrinkage of obviously enlarged glands which often occurs after its use, it should be competent *a fortiori* to deal with the early microscopic stage of infection. As compared with excision it has the great advantages that it is applicable even in old or enfeebled patients, and that it does not increase shock or appreciably prolong the operation. It is, however, true, as Mr. Parry points out, that the present scarcity of radium restricts the use of the method to centres where it is available in sufficient amounts—say 100 mg.

Unless infection of the anterior mediastinal glands is secondary to infection of the supraclavicular glands, as Mr. Parry believes, both these sets of glands require to be dealt with. Now I have seen recurrence, apparently originating from the anterior mediastinal glands, in cases where no enlarged supraclavicular glands could be felt. Logically, therefore, if the supraclavicular glands are excised it seems to me that the anterior mediastinal glands should also be removed. My adhesion to the buried radium method is partly due to an unwillingness to face such an alarming, though quite possible, extension of the operation. I have cleared the anterior mediastinum in 6 cases. In 4 of these no glands—or only uninfected ones—could be found. In 2 cases infected glands were found, and both these cases subsequently died of recurrence.

Mr. Robert E. Lord's letter of January 22nd asks most pertinent questions as to *x*-ray dosage, which, however, should be addressed rather to radiologists and physicists than to a surgeon. Questions of quality, as well as quantity, arise. I will only record my impression that I have seen the best results in cases where deep pigmentation of the skin has been secured over a wide area.—I am, etc.,

London, W., Feb. 16th. W. SAMPSON HANDLEY.

X-RAY RADIATION AND CANCER.

SIR,—A letter from Dr. Reginald Morton in your columns of January 29th stated that, after a recent visit to a Frauenklinik in Bavaria, he came home with the conviction that only spark coils will supply the really hard radiation which is necessary for the successful treatment of deep-seated malignant diseases; that there is only one outfit in this country capable of doing this work; and that a weak dose of *x* rays will stimulate the growth of malignant cells instead of killing them.

I beg to draw attention to the fact that my firm has persistently advocated the necessity of using spark coils for producing hard rays; that coils specially built to work the *x*-ray tubes referred to by Dr. Morton are being made in this country too; and that as long ago as 1914 we mentioned, on page 243 of our catalogue, that prominent gynaecologists have found that "a weak dose irritates and accelerates the growth of malignant cells, and only a strong dose will kill them."—I am, etc.,

London, W., Feb. 16th. W. E. SCHALL, B.Sc.

THE POSITION OF THE ARMS IN BREECH WITH EXTENDED LEGS.

SIR,—Some of your readers may recall a recent trial in which a medical man was unsuccessfully sued for negligence because, in a case of breech with extended legs which he attended, the child was born dead.

The doctor in his deposition attributed much of the difficulty of the delivery to the fact that, in addition to the legs, the arms also were extended, and stated that in introducing his hand into the uterus to bring down the legs he found the arms already above the head, though the shoulders were high above the pelvic brim. The prosecution tried to prove that the extension of the arms was brought about by improper pulling on the trunk of the child; but the doctor stoutly stuck to his guns, although the expert witnesses called on his side—of whom I was one—were unable to support his assertion from any similar experience or knowledge of their own.

As a fact, in cases of extended legs the hand is not as a rule introduced much above the knee, and consequently there is no opportunity of ascertaining the position of the arms.

On two occasions lately when dealing with extended legs I have had to introduce my hand up to the head of the child, and in both cases the arms were by the side of or above the head. Moreover, I satisfied myself by test upon a newborn child that when the legs are in full extension the feet and calves take up so much room as necessarily to prevent the arms assuming their normal position on the chest. The practitioner may therefore take it that in every case of extended legs the arms also are abnormally placed, and as a matter of routine should be manually brought down before any attempt is made to deliver the head.

The position of the arms in "impacted breech" is not referred to, as far as I know, in any textbook, though it is obviously important from the obstetric point of view, and on occasions, as in the case I have referred to, it may acquire a medico-legal interest as well.—I am, etc.,

London, W., Feb. 16th. VICTOR BONNEY.

VACCINE THERAPY IN REGARD TO GENERAL PRACTICE.

SIR,—May I elaborate a point in Dr. Fleming's valuable lecture published in your issue of February 19th? The discovery that pneumococci can be classified into strains by paying attention to their agglutination by serums was made independently but almost simultaneously by the American workers Drs. Dochez and Gillespie, and by Dr. (now Sir Frederick) Lister in South Africa. Lister had the great advantage of working under Sir Almroth Wright during the latter's visit to South Africa, and became adept in his methods of laboratory work. When Sir Almroth returned to England, Lister isolated pneumococci from cases of pneumonia, and found that at a certain stage the serum of a patient strongly agglutinated, and opsonized his particular pneumococcus, but not necessarily the pneumococcus derived from another patient. This furnished him with a clue.

Lister's work, which has proved of enormous economic importance to South Africa, can be studied in his papers

published by the South African Institute for Medical Research, which are to be seen in the library of the Royal Society of Medicine.—I am, etc.,

London, W., Feb. 19th. A. R. FRIEL.

HEART-BLOCK IN DIPHTHERIA.

SIR,—I am much interested in the case of diphtheria developing heart-block reported by Dr. Clayton Allen in your issue of February 19th. The patient evidently suffered from the condition which has been described previously as "paroxysmal cardiac failure" or "vagal attacks." Although complete heart-block is unusual, yet a few cases are reported in the literature.[1] Three cases of this type are reported in my monograph, *The Circulatory Failure of Diphtheria*, and the mechanism of their production is discussed.[2]

During the course of some experimental work to show the effect of diphtheria toxin on cats, I on one occasion actually saw heart-block develop. The animal was dying from the effects of diphtherial intoxication when the observation was made. The concentration of its blood had risen to such an extent as to indicate the loss of about half its plasma volume. The animal was anaesthetized and the heart exposed. The muscle of both the auricles and the ventricles was seen to be in a state of fibrillation. Saline was run into the saphenous vein so as to reduce the concentration of the blood and to increase the volume in circulation. The fibrillation ceased and the heart began to beat. At first the ventricle responded to every fourth, then to every third, later to every second, and finally to every beat of the auricle. That is, there occurred progressively a 4 : 1, 3 : 1, and 2 : 1 heart-block. I therefore suggest that heart-block in diphtheria is not due to a specific effect of the diphtherial poison on the neuro-muscular tissue of the auriculo-ventricular bundle, nor yet to an alteration in the conducting power of the myocardial tissue as a whole from the direct action of the toxin, but is rather an effect of the lowered and hampered metabolism characteristic of the disease, which in its turn is dependent on leakage of fluid from the blood vessels, with a resulting concentration of the blood and reduction in its volume.

With regard to prognosis, it may safely be said that patients who develop attacks of paroxysmal cardiac failure of this type, treated by the methods at present available, almost invariably die. The treatment of very severe cases of diphtheria with large doses of serum will, presumably, prevent the occurrence of this most fatal complication in a proportion of instances. At Plaistow Hospital cases of the severity described in Dr. Clayton Allen's communication are given doses of from 30,000 to 90,000 units of antitoxin. Most authorities are agreed that it is inadvisable to use hot fomentations to the swollen neck, as they tend to increase the absorption of toxin. When an attack of paroxysmal cardiac failure occurs or is impending atropine hypodermically gives most relief, probably from its effect on the vagal terminals in the heart. It should, I think, be given regularly, say every four hours, to all diphtheria patients with a slow pulse (under 50) who are very ill. The foot of the bed should be raised so as to ensure the best possible circulation to the vital nerve centres. The best stimulant to use during the attacks is ether given intramuscularly. Personally, I avoid strychnine, as I think it does more harm than good.—I am, etc.,

M. ESTHER HARDING, M.D., M.R.C.P.,
Late Medical Officer, Plaistow Fever Hospital.

London, Feb. 19th.

RISKS AFTER OPERATION ON TONSILS AND ADENOIDS IN OUTDOOR CLINICS.

SIR,—I am surprised to hear that the operation for tonsils and adenoids is still done, as the writers in the present correspondence suggest, in outdoor clinics. In Bradford this has not been done to my knowledge—certainly not by myself, and, as far as I know, by any of my colleagues—for years. When I read the remarks of such authorities as Sir William Milligan, Mr. Herbert Tilley, and Dr. P. Watson-Williams I am surprised that in their respective cities more advanced arrangements have not been made to have the operation as safe as possible and reduce the complications to a minimum. I presume that these gentlemen have the misfortune to have boards of management who pay no attention to the recommendations of their medical staffs, and are therefore not fit for the position of trust in which the subscribers to the hospitals have placed them. What is necessary for the wealthy private patient is necessary for the hospital patient.

I have been busily engaged in this type of work for close on thirty years now, and during that period have done the operation a few thousand times. Sir William Milligan says that "deaths from the anaesthetic are still too frequent, and acute otitis media, mastoiditis, glandular infection, haemorrhage, etc., are practically unknown if the child is kept in bed for two or three days." As it has been the custom here never or hardly ever to send patients home the same day as the operation, but to keep them in at least one day, I am in a position to agree that complications are rare under such conditions. I have only once seen a death from chloroform; I have never had a death from haemorrhage, though I have had several reactionary haemorrhages, which never gave further trouble than pallor for a day or two at the worst; I have had one very bad case of mastoiditis, which went on to lateral sinus thrombosis, meningitis, and death. In the last case—a private case—the patient had two days' preliminary treatment in a nursing home and was kept two days in the home afterwards, and when he was discharged all seemed well with him, but the day afterwards acute otitis media set in, with the calamitous result recorded. Apart from the death under the anaesthetic (chloroform), my worst cases have been private cases carefully attended to in good nursing homes.

I was asked many years ago to establish a clinic with sixteen beds for operative work of the ear, nose and throat, by the Bradford City Council for the school children. In Leicester there is apparently an institution of the same kind. In this little institution I always admitted the patients in the evening and operated on them at 9 o'clock in the morning. They were kept in the hospital till I came the following morning, and discharged them if fit, and if I was not satisfied with the case they were kept in longer. They had every care which any private patient could command. The results were very good. The operation done was the enucleation of the tonsils in their capsules in practically every case. In the Royal Eye and Ear Hospital I operated on the day of admission, but the patients were kept in the hospital the following night, and the results were also as good as I could expect. At the Royal Infirmary the same procedure is followed.

I cannot imagine distinguished surgeons permitting boards of management to allow such an arrangement to continue as the necessity of operating on tonsils and adenoids in an outdoor clinic, and permitting a host of crying children to be taken to a recovery room and remain there vomiting a short time, and then, when they have apparently recovered, allowing them to be taken home. I have no doubt that the complaint will be made "short of money"; then I say that any board of management which is so useless as not to be able to raise the necessary money to have such a necessary clinic founded ought to be replaced by one which can warrant the necessary trust. I am sure that if the subscribers knew the full facts plenty of money would be forthcoming.

As long as such operations as the removal of enlarged tonsils and adenoids are done in out-patient departments without the necessary indoor treatment, and as long as gentlemen accept the honour of being placed on the committees of the voluntary hospitals and take little trouble fully to discharge their duties as such, so long will the incomes of our voluntary hospitals show adverse balance sheets, and so long will socialists and others clamour for the taking over of our voluntary hospitals by the State.—I am, etc.,

Bradford, Feb. 8th. ANDREW LITTLE.

SIR,—I have not noticed in this correspondence any mention of the fact that institutions have already been provided for the purpose of admitting children for operation and for their detention for two days subsequently.

Over 1,000 cases have thus been dealt with at the "Cyril Henry Treatment Centre" under the L.C.C.

[1] Rohmer, *Jahrb. f. Kinderheilk.*, 1913; Parkinson, *Heart*, May, 1915; Hume and Clegg, *Quart. Journ. Med.*, October, 1914; Price, *Diseases of Heart*, 1918, p. 192.

[2] Harding, *Circulatory Failure of Diphtheria*, Heart-block, pp. 89-91; Cases, pp. 94, 98, 99.

scheme for treatment of school children, and I think all connected with the centre are agreed that this is a much better plan in every way than the older method of sending the child home almost immediately after the operation.

There may be other similar institutions throughout the country, but probably London gave the lead in this matter.—I am, etc.,

London, S.E., Feb. 8th. E. J. MORTON.

TREATMENT OF THE PRE-OPERATIVE STAGE OF ENLARGED PROSTATE.

SIR,—I am glad Mr. Thomson Walker agrees that there are some cases which do not require operation, and I regret I misunderstood him. However, I fancy I could bring to his notice, in another publication, this advice which he now repudiates.

I do not wish to defend the catheter, but I must say I think it is often a maligned good. True, sepsis usually follows its use, but if a little common sense were used in addition to strict cleanliness, the evils would be much fewer—at least that is my experience. If, to wit, the anterior urethra were first washed out, sterile liquid paraffin *injected* as a lubricant, and if after withdrawing the urine (a rubber catheter, with or without a coudé whalebone stylet, is best) a mild antiseptic were allowed to flow into and out of the bladder, how few would be the organisms left in the bladder after this small additional trouble! The paraffin, as it were, imprisons them, and prevents trauma, if used in this way.

But if sepsis should follow, what then? Operate; and operation in the presence of much residual urine with sepsis often is safer than without it—the patient is auto-inoculated; not that I am defending sepsis. Take now the bugbear cancer; this usually is cancer *ab origine*, and although it often follows enlarged prostate, is this cause and effect?

I never thought there was only one cause for frequency of micturition, or that Mr. Walker advised operation for it; if so, the half of all persons over 50 would require operation. Renal diseases and scores of other things cause this symptom (for instance, "mountain dew"!).

Mr. Neve's remarks are interesting. Massage only relieves congestion, but that is a great deal; moreover, prostatitis often accompanies "enlarged prostate." Age is no bar to inflammation, and I have often seen mistakes made. Orchitic extracts are not likely to do very much good—indeed, orchidectomy was the "cure" some years ago. Gout and rheumatism, I am sure, are big factors in prostatic changes, and I should like to add that I have found "senile prostate" (a better name) common in the priesthood, amongst whom the orthodox supposable causes (infective) are not thought to be very prevalent.—I am, etc.,

London, E.C., Feb. 8th. JAMES MACMUNN.

THE FALL IN THE TUBERCULOSIS DEATH RATE.

SIR,—The announcement of the Registrar-General that the death rate from tuberculosis fell in 1919 to a lower point than it had ever before reached has given rise to surprise and some curious comments from those who had not expected, and perhaps had not worked to attain, this satisfactory result. The writer, with countless other workers in the field of preventive medicine, has been confidently expecting this fall, and does not, like the medical correspondent of the *Times*, find it unaccountable. In a letter which you published nearly twelve months ago I maintained that the rise in the tuberculosis death rate which occurred before and during the war was due to temporary factors, including influenza, and was not the result of paternal legislation, which if it had diminished real wages, had also decreased destitution. I also ventured to prophesy that we should very soon see the deaths from tuberculosis reach a lower figure than ever. My forecast has been fulfilled earlier than I expected, and must be a cause of great satisfaction and congratulation to all those who have for many years been labouring to diminish the ravages of consumption.

General hygienic measures and a higher standard of living among the poorer classes have increased their resistance to the tubercle bacilli; notification of tuberculosis and tuberculosis dispensaries have ensured earlier treatment of commencing cases, and sanatorium treatment and the educational steps taken by medical officers of health have taught the practice of living and sleeping in the open air and the avoidance of infection. If to these factors we add diminished alcoholism and improved workshop hygiene we hardly need look farther for the cause of the fall in tuberculosis mortality.

As one who has had to retire from the line of battle, I can only wish God-speed to those who are still in it. May their efforts continue to produce equally satisfactory results.—I am, etc.,

Montreux, Feb. 16th. SIDNEY DAVIES, Late M.O.H. Woolwich.

EYE-STRAIN IN CINEMATOGRAPH HALLS.

SIR,—In your issue of February 19th you state that the committee appointed by the Illuminating Engineering Society believes that cinematograph ocular discomfort arises mainly from the abnormal angle at which the eyes of spectators are directed upwards to the pictures.

In a paper published in the *British Journal of Ophthalmology* for November, 1920, I gave some personal experience gathered in a large war hospital, where we had cinematograph exhibitions from three to six times a week. The ocular discomfort I experienced was so great that often I had to leave the hall. I usually sat 45 ft. away from the screen, and so the angle of elevation in my case was small and had nothing to do with the production of the discomfort. For nearly four years I had the subject occasionally under consideration, and came to the conclusion that the locality of the discomfort is in the retina and that it is caused by central or uneven illumination of the retina while the eye is in a condition of dark adaptation. If the light on the screen is very bright or bright in patches the peculiarity is exaggerated and the discomfort increased.—I am, etc.,

Glasgow, Feb. 19th. J. ALEXANDER WILSON.

THE COLLECTIVE OPINION OF THE PROFESSION.

SIR,—As a non-member of the Association, may I venture to criticize the construction of the body which the British Medical Association proposes as "really representative of all the organized medical profession, both generally and sectionally"? (SUPPLEMENT, February 19th, p. 42.)

If I understand aright, Dr. Addison desired a body so far representative that he would not be worried by deputations from other bodies each capable of expressing opinions adverse to the policy of the British Medical Association and each able to influence a considerable body of opinion. Since I was present when Dr. Addison expressed his desires, there is some warrant for supposing that I am correct in so understanding him. There are two bodies to which no reference is made by the British Medical Association, each of which has a considerable number of members and each of which is in a position to influence opinion outside its own ranks by its journal or by pamphlets, etc. In other words, these two bodies have sufficient funds and sufficient membership to be quite definite factors in medical opinion. I refer to the Medico-Political Union and the National Medical Union.

These bodies are not mentioned in the British Medical Association Memorandum, and, since their existence is well known, one can only conclude that the omission is deliberate. It might almost be construed as a slight. There is also the Federation of Medical and Allied Societies, and this body is claiming that Dr. Addison will recognize no body which does not include representatives of the federation. This claim is made quite explicitly, and surely merits the attention of the British Medical Association, however much or little it may itself approve of the federation's constitution.

With these three bodies neither mentioned nor invited to assist the British Medical Association, it should be patent to all that we have made no greater approach to professional unity than obtained before. Why, then, was the Memorandum issued? As a non-member I am very sure that neither my medico-political associates nor myself have any representation therein. Not being children, we shall see to it that Dr. Addison is informed that we were not even invited to agree. We shall then have arrived in the *status quo ante*, after wasting some months in getting there.

Is there no statesman in the British Medical Association big enough to rise above the chance of slighting his opponents? I venture to think that the profession requires a statesman now more than ever, a man at least big enough to put the general welfare before the opportunity of a ponderous snub. May we know the names of the statesmen who produced this Memorandum in the name of your Association?—I am, etc.,

Sevenoaks, Feb. 19th. GORDON WARD.

*** The Memorandum in question was discussed and approved by the Council of the British Medical Association at its meeting on February 16th.

THE NAVAL MEDICAL SERVICE.

SIR,—The question of reform in the Naval Medical Service has been discussed freely by officers who held temporary commissions during the war. I send you a few of the reasons which may be contributory to the comparative failure of the service to augment its numbers from our very considerable numerical strength. The following statements were put down in 1919 after a three years' experience in a leading naval hospital.

There was an absence of a sufficient number of senior men with the capacity for teaching, and this, together with a complete absence of registrars, proved serious to the large body of recently qualified officers, many of whom had not held a house appointment. Registrars have been found to be part and parcel of the efficiency of civilian hospitals. The senior officers of hospital sections were in some cases quite innocent of modern medical knowledge, and often they appeared to be overburdened with paper work. In neither case were they to blame. The war has produced specialists in certain departments, but even as late as 1919 the Medical Department at the Admiralty declared, so I am informed, that the navy had no use for a neurologist in peace time.

The fact that medical officers retained their wards for very brief periods in some cases was due no doubt to the constant changes in personnel, but it resulted in many patients having as many as four and six medical attendants in a week. It was the exception for a patient needing treatment at night to receive it from a doctor who had seen him before.

Many patients, trained men, were invalided with diagnoses little short of grotesque on account of a lack of proper application of medical knowledge, and this professional flippancy was made to take an exaggerated form by reason of the multiplicity of naval medical signatures which the papers carried. The system of policing and patrol as witnessed in hospital gained few advocates from our number.

The conviction was forced upon some of us that in the service a habit can be acquired fairly readily of placing chances of promotion before medical duties which involved diagnostic and prognostic responsibility. This habit appeared to be due chiefly to the obvious difficulties under which the duties of fairly senior officers in particular had to be carried out. A career seemed to be in least danger to the officer who tried to make sure that he did nothing which could be proved wrong; in other words, a premium was placed upon a professional incapacity to face all and every medical problem. Happenings quoted from the working of the mental department have helped to support this conviction. It was common for ratings who were obviously sane on admission to be required to spend one or more days and nights in the asylum because, months before may be, they suffered from a mental disability, however transient. Once a diagnosis of mental disease was given in the service it stayed with the patient from hospital to hospital, diluted, perhaps, *en route* with the statement of the doctor who caused the diagnosis to be perpetuated that he "observed no evidence of mental disease." Similarly with cases of epilepsy and heart disease, so called.

A boy, aged 16½, was successfully invited by a senior officer to spend his first night at any rate in the asylum. The officer of the department did not see the lad until the next day, and he then found that the patient had been completely cured for three months past of a temporary mental confusion following "influenza" at Simonstown, and that he had enjoyed complete liberty during this period. Immediate transference to a medical ward was insisted upon, in spite of the statement that there was no vacancy. Nevertheless, the boy was required, in order to obtain his dinner, to return to the asylum for the purpose on this day.

There was but one ward for cases under observation and for those already certified insane. Several sane patients who were unable by reason of disease to express their thoughts in coherent speech, aphasics, were passed into the asylum on admission, in accordance with the principles of panic. Yet the navy has no place for a neurologist in peace time!

Another memory is that of all newly admitted ratings who brought with them a report that their blood serum gave a positive Wassermann reaction being swept into the venereal wards. For many months the tabetics and the owners of chancres, the hemiplegics, and the victims of urethral "strain" were apt to occupy adjacent beds, but this arrangement appeared to be due to the enthusiasm of a commissioned ward master rather than to the wishes of any medical officer.

Much good work was done by overworked and conscientious officers in the face of considerable difficulty, and certainly the writer will never forget the exceptional kindliness which all temporary officers received at the hands of the permanent service, but in hospital, at any rate, there was something wrong with the machinery of medicine, and it is the recollection of it which prevents some of us from recommending whole-heartedly to medical students the Naval Medical Service. All of us would be proud of an opportunity to help this branch to be a completely worthy member of the finest service in the world, and it is on this account that this letter is written. I enclose my card.—I am, etc.,

Harley Street, W., Feb. 19th. "M.D."

MILITARY MEDICAL HISTORY.

SIR,—I was extremely interested in Major-General Evatt's letter suggesting the appointment of a professor of military medical history. The study of the medical side of past wars is both fascinating and instructive. Personally, I have always been interested in military history, and in reading over the memoirs and biographies of officers and men it has often struck me what a wealth of material relating to military medicine is hidden away among the leaves of these books. This material unearthed and sifted would surely prove instructive and of value to all officers of the R.A.M.C. What vivid glimpses of army medical administration in past wars we get in some of these memoirs! To read of the veritable charnel houses, misnamed hospitals, in Napoleon's Russian campaign, and of the state of some of our base hospitals, such as Belem and Celorico in the Peninsula, makes one realize what vast strides have been made in the Army Medical Services. In those days, and even down to the "fifties" and later, for a man to be sent to hospital was practically to be sentenced to death. What a change to our magnificently equipped hospitals in France and Flanders in the great war!

Yet the individual regimental surgeon is always spoken of with admiration. It is the Administrative Department which is nearly always at fault. The regimental surgeon carries on in the face of tremendous difficulties and dangers. He is always cheery and bright, and sometimes, when all the other officers are struck down, he leaves his wounded for a time and takes command himself. Who is there but can admire the steadfast courage and unselfish devotion of such men as Joseph Fayrer in the Residency at Lucknow, Surgeon Kelly at Cabul in '79, Dr. Philip Frank who tied the carotid under fire at Balan in '70 (a knightly soul who I was privileged to know), and Martin Leake, who won the V.C. with bar!

There are many lessons to be learned from this last great war. Though the medical arrangements in the western theatre of the war were all that could be desired, yet in some of the various "side shows" these arrangements were anything but satisfactory. The lessons of past wars seem to have been forgotten in many instances. The medical history of the great war should prove of great value to the future generation of army medical officers.—I am, etc.,

RUSSELL V. STEELE,
Devizes, Feb. 12th. Captain late R.A.M.C.

THE PREVENTION OF VENEREAL DISEASE.

SIR,—The letter of Dr. Gilford, of Reading, gives one great pleasure. Here is someone at last who has gone to the root of the sexual evils which abound to-day.

Dr. Gilford has attacked the proper quarter, and that is

the parental upbringing of the young. Every young man and woman ought to be educated at home by the parents in self-respect with regard to bodies as well as brains. Until that is done, and the young understand for what their sexual functions are, the innocent future generations will continue to be tainted when born as is the case to-day.

When we hear of male medical students in the common-room of a London college stating that it is not possible for men to remain without sexual intercourse until marriage, it is about time we had such letters as that of Dr. Gilford brought well to the front.—I am, etc.,

London, E., Feb. 13th. E. MCHARDY, M.B., Ch.B.

Medico-Legal.

OFFENCES UNDER THE MEDICAL ACTS.

IN our issue of February 5th we drew attention to a woman calling herself Margaret Crawford (or Margaret de Lancy Williams) whose arrest was sought on a warrant by the police for alleged offences against the Medical Acts, 1858. This woman was arrested in Dublin on February 10th, and brought before Mr. D'Eyncourt at Marylebone Police Court on February 18th to answer four summonses preferred by the Medical Defence Union, Ltd., of falsely pretending to be a general medical practitioner in August and September last, and of falsely using the title of Bachelor of Medicine on three death certificates. The accused pleaded guilty and was fined £20, with five guineas costs, for each of the offences.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

Diploma in Medical Radiology and Electrology.

ON the recommendation of the Committee on Medical Radiology and Electrology the diploma in medical radiology and electrology has been granted to J. E. A. Lynham, M.D., A. E. H. Pinch, F.R.C.S., W. J. Turrell, M.D., A. E. Barclay, M.D., and F. Hernaman-Johnson, M.D.

At a congregation held on February 18th the following degrees were conferred:

LL.D. (*honoris causa*).—Dr. A. Calmette (subdirector of the Institut Pasteur), Sir Patrick Manson, G.C.M.G.
M.S.—O. G. Morgan.
M.B., B.CH.—G. A. Harrison.
B.CH.—Leslie S. Gathergood.

UNIVERSITY OF LONDON.

A MEETING of the Senate was held on February 16th.

The Prince of Wales.—The Vice-Chancellor (Dr. Russell Wells) stated that the Prince of Wales would receive the honorary degrees of Master of Commerce and Doctor of Science on May 5th, and had promised to attend the graduation dinner on that evening. The Guildhall has been placed at the disposal of the University for this purpose by the Lord Mayor and Corporation, and the Lord Mayor has accepted an invitation to be present.

Professor of Obstetrics, London School of Medicine for Women.—Miss Anne Louise McIlroy, O.B.E., M.D., Ch.B., D.Sc.Glasg., was appointed to the university chair of obstetrics and gynaecology tenable at the London School of Medicine for Women. Miss McIlroy was educated at the Universities of Glasgow, London, Berlin, Vienna, and Paris. She has held the appointments of assistant surgeon at the Glasgow Female Lock Hospital, district obstetric physician in charge of the West End Branch of the Glasgow Royal Maternity Hospital, assistant gynaecological surgeon at the Royal Samaritan Hospital, Glasgow, and senior assistant to the Muirhead Professor of Obstetrics and Gynaecology at the University of Glasgow. From 1915 to 1919 she was surgeon in charge of the Girton and Newnham Unit of the Scottish Women's Hospitals for Foreign Service, which was stationed at Salonica and Belgrade. Since 1919 she has been gynaecological specialist in the 82nd General Hospital at Constantinople, in which she acted as surgical specialist during the absence of the senior surgeon. As professor she will be director of the Obstetrical and Gynaecological Unit at the Royal Free Hospital, to which the London School of Medicine for Women is attached.

Chair of Embryology.—Professor James Peter Hill, D.Sc.Edin., F.R.S., was appointed to the university chair of embryology tenable at University College. In 1892 he was appointed demonstrator in biology, and in 1904 lecturer on embryology, in the University of Sydney; and since 1906 he has held the Jodrell chair of zoology and comparative anatomy at University College.

Graham Scholarship in Pathology.—The Graham Legacy Committee reported that they had appointed Mr. V. R. Khanolkar, M.B., B.S., B.Sc., to the Graham scholarship in pathology for two years from April 1st, 1921. The value of the scholarship is £400 a year. Since October last Mr. Khanolkar has been assistant bacteriologist in University College Hospital. He has had considerable experience both as a teacher and as an investigator, and the proposed subject of his research is "Focal activity of the kidneys."

UNIVERSITY OF BRISTOL.

THE following candidates have been approved at the examinations indicated:

M.D.—A. R. Heber.
FINAL M.B., CH.B.—*Part II (Completing Examination):* W. H. Royal, Marjorie Wadsworth (with first-class honours). *Part I Only (including Forensic Medicine and Toxicology):* W. A. Jackman, P. Phillips. *Part I Only:* Phyllis Beames, M. Critchley, J. R. Duerden, Winifred G. Nott, J. A. Prichard, W. K. A. Richards, Victoria S. Tryon.
D.P.H.—*Part II (Completing Examination):* F. V. Cant, A. D. Fraser, G. C. Williams.

Obituary.

WILLIAM ODLING, M.B., F.R.S.,

Late Waynflete Professor of Chemistry at Oxford.

PROFESSOR WILLIAM ODLING, who died at his residence in Oxford on February 18th, was 91 years of age, and had been Waynflete professor of chemistry in the University of Oxford for forty years; he succeeded Sir Benjamin Brodie, the first holder of the chair, in 1872, and only resigned in 1912. He was the son of a medical practitioner in Southwark, received his medical education at Guy's Hospital, and graduated M.B.Lond. in 1851. He was elected a Fellow of the Royal College of Physicians of London in 1859, during the presidency of Dr. Thomas Mayo, and was its senior Fellow at the time of his death. He never practised medicine, however, but devoted himself entirely to chemistry, having been appointed director of the chemical laboratory in Guy's Hospital at the age of 21. In 1863 he became lecturer in the subject at St. Bartholomew's Hospital Medical School, and five years afterwards succeeded Edward Frankland as Fullerian professor of chemistry at the Royal Institution. In his early days he wrote a number of papers on theoretical considerations regarding the constitution of organic bodies, and later gave much attention to practical questions, such as the purification of rivers, the analysis of drinking water, and the chemistry of bread-making; he wrote a number of textbooks which were popular in their day, but during the later part of his life he ceased to do much in the way either of research or writing. He married, in 1872, the daughter of Mr. Alfred Smee, F.R.S., and leaves three sons, one of them a lecturer in the University of Leeds.

JAMES HUNTER, F.R.C.S., F.R.C.P.EDIN., F.R.S.EDIN.,

Liberton, Midlothian.

DR. JAMES HUNTER, who died suddenly in Edinburgh on February 14th, was known to many generations of students both inside and outside the University of Edinburgh as a teacher and an examiner in physiology. He was elected to the Fellowship of the Royal College of Surgeons of Edinburgh forty-three years ago, and soon came to devote himself with zeal to physiology, giving lectures thereon in the Minto House School of Medicine. Later he acted as examiner in that subject and in biology for the Triple Qualification of the Royal Colleges of Edinburgh and Glasgow. He was in no sense a one-subject man, for his enthusiasm extended outside of medicine and invaded astronomy and geology and theology, a fact which sometimes made a curious appearance in his oral examining in physiology and biology. He was a devotee of science in many of her departments, and at one time took a great interest in the work of the Royal Society of Edinburgh. Although retired from active teaching some years ago Dr. Hunter courageously returned to it for a short period during the war when Edinburgh was sorely depleted of her extra-mural staff. He moved quietly about amongst his fellows, seeking no honours, but always doing his daily work in an effective and unostentatious fashion, and his death will leave a blank in the circle who knew and loved him well.

MR. ALEXANDER DUNCAN, B.A., LL.D., secretary and librarian of the Royal Faculty of Physicians and Surgeons, Glasgow, died on February 14th. He had held the appointment for over fifty-five years, and had a most extensive and profound knowledge of medical literature. He was born at Muckhart, near Dollar, graduated B.A.Lond., and for a time was a schoolmaster in Kirkintilloch. In 1865 he was appointed secretary and treasurer to the Faculty of Physicians and Surgeons in Glasgow. By compiling and publishing catalogues of the library he facilitated greatly the work of medical research,

and he prepared a history of the medical profession in the West of Scotland, entitled *Memorials of the Faculty of Physicians and Surgeons of Glasgow; with a Sketch of the Rise and Progress of the Glasgow Medical School and of the Medical Profession in the West of Scotland.* He received the honorary degree of LL.D. from Glasgow University in 1898.

Medical News.

ON February 21st the Council Club of the Royal Society of Medicine entertained Sir Dawson Williams, Sir Charles Ryall, and Sir Maurice Craig at dinner. The President of the Society, Sir John Bland-Sutton, was in the chair, and among those present were Sir R. Hill, K.C.M.G., Medical Director-General R.N., Sir John Goodwin, K.C.B., D.G.A.M.S., Sir Arbuthnot Lane, Bt., Sir J. Dundas Grant, Dr. R. A. Gibbons, and Mrs. Scharlieb, M.D.

A CONFERENCE on industrial welfare, arranged by the society bearing that name, will be held at the Mansion House on March 2nd. The Lord Mayor will preside, and among the speakers will be the Duke of York, the Home Secretary, the President of the Board of Education, and the Right. Hon. J. R. Clynes, M.P.

AT a meeting of the Radnorshire Panel Committee held at Llandrindod Wells on February 18th, Dr. Harding of New Radnor (Chairman of the Radnorshire Panel Committee and Chairman of the Radnorshire Insurance Committee) was presented with a silver salver inscribed as follows: "Presented to Dr. R. Harding on his marriage, December 1st, 1920, by the panel practitioners of Radnorshire, as a small token of their appreciation of his services in connexion with national health insurance." The presentation was made by Dr. J. Murray of Llandrindod Wells, who in the course of his remarks made reference to the untiring energy and determination with which Dr. Harding had fought in the interests of rural practitioners, especially in regard to extra mileage.

DR. GUSTAV MONOD-WALTER of Vichy is at present in London to discuss with the profession here the possibility of establishing some practical organization for encouraging closer co-operation between the profession in the two countries. Some time ago independent members of the profession in France formed a propaganda section; it has now been enlarged by the addition of representatives of the teachers of the medical schools in France, and is known as the Association pour le Développement des Relations Médicales (A.D.R.M.). This body, which works under the auspices of the Faculté de Médecine, is prepared to offer the advantages of its organization to British medical practitioners visiting Paris in return for similar advantages to be placed at the disposal of French doctors coming to this country. The suggestion is under the consideration of the Fellowship of Medicine.

THE foundation stone of a new home for the nurses of St. Bartholomew's Hospital was laid by the Queen on February 17th. The nursing staff has hitherto been housed in a number of old buildings on the site of which the new building is to be put up; the first of the four blocks which have been planned is now building, and the others will be erected as funds permit. The blocks will be connected on each floor by enclosed bridges, and each floor of each block is to be self-contained and capable of being isolated entirely in such an event as fire or infection. Separate bedroom accommodation will be provided for the whole of the nursing and female domestic staff, offices for the matron and her assistants, various common rooms and dining halls, sick bay wards for twenty-five nurses, a lecture theatre, a library, and an examination room. The Queen was received by the Prince of Wales, president of the hospital, who presented to Her Majesty the hospital treasurer and almoners and representatives of the medical and nursing staffs. Prayer was offered by the Bishop of London, and the Prince then read an address which stated that the governors had long recognized the need of improved accommodation for the nursing staff, and were grateful that, thanks to public munificence, they were now in a position to erect the first block of a new home which would ensure healthy conditions of housing, comfort, convenience, and economy of administration. The Queen then handled the trowel and mallet, and the stone was well and truly laid. The Prince of Wales, in expressing the thanks of the governors, mentioned that "Bart's" had lately received some munificent donations; one of the individual donations was of £25,000, and another of £10,000.

DR. ARCHIBALD LEITCH has been appointed Director of the Cancer Hospital Research Institute.

A THIRD course of lectures and practical courses of instruction for a diploma of psychological medicine will be given this year at the Maudsley Hospital. The first part, by Sir Frederick Mott, F.R.S., Dr. Golla, and Dr. Devine, will begin in the first week of April; the second will be held in October. Further particulars can be obtained from the Fellowship of Medicine, 1, Wimpole Street, W.1, which will issue tickets. The fee for the full course is 15 guineas; for each part separately, 10 guineas.

POST-GRADUATE courses in dermatology and venereal diseases will be given this spring at the Hôpital Saint-Louis, Paris, under the direction of Professor Jeanselme. The course in dermatology will begin on April 8th and conclude on May 28th; it will include lectures and clinical demonstrations, including a special course on ringworm by Drs. Sabouraud and Noiré. The course in venereal diseases will begin on May 30th and end on July 7th. The fee for each course is 150 francs. All further particulars can be obtained from M. Marcel Bloch, Chef de Laboratoire à la Faculté, 40, rue Bichat (10e), Hôpital Saint-Louis.

A COURSE of four public lectures on the history of plant delineation, a subject of importance in the history of medicine, will be given during March in the Botany Department of University College, London. The first two, on the art of the ancient empires and the dark and middle ages, will be delivered by Dr. Charles Singer, and the other two, bringing the subject down to recent times, by Dr. Agnes Arber. The lectures are given on Wednesdays at 5 p.m., beginning on March 2nd, and are open to the public without fee.

A COURSE of twelve lecture-demonstrations on gonorrhoea for senior students of the hospital and medical practitioners will be given at the London Hospital, beginning on March 1st, at 4.30 p.m., by the chief assistants to the Genito-Urinary Department. Mr. Clarkson's demonstrations on the male will be given on Tuesdays and Thursdays, and Dr. Simpson's on women on Wednesdays and Fridays. Particulars can be obtained from the Dean.

DR. A. E. BARCLAY, medical officer of the *X*-Ray and Electrical Department, Manchester Royal Infirmary, informs us that a series of seven plaster models made from *x*-ray observations and showing the normal stomach and the effect of posture upon its shape have been placed on exhibition at the Royal College of Surgeons.

THE 1921 report of the Officers' Families Fund covers a period of nearly two years, and shows that the administration of this important Fund, which relieves many hundreds of necessitous cases, is being well and economically carried out; the work has naturally diminished somewhat during the last two years, and the institution of the Officers' Association, with which the Fund has a working arrangement, has also relieved it in some measure.

OF the twenty-one successful candidates at the recent examination of the Sanitary Inspectors' Examination Board ten received instruction at the Battersea Polytechnic, six at the National Health Society, three at the Royal Sanitary Institute, and one from the Hackney Institute; the remaining candidate was in office.

ON the recommendation of the Minister of Health, the King has been pleased to appoint Mrs. Ellen Frances Pinsent to be a Commissioner of the Board of Control, to fill the vacancy caused by the retirement of Miss Mary Dendy.

THE Nurses Registration Act, 1919, empowered the General Nursing Council for England and Wales to make rules with respect, among other matters, to the uniform or badge which may be worn by nurses registered under the Act. Neither uniform nor badge are compulsory, but the Act provides that any unauthorized person using the uniform or badge shall be liable on summary conviction to a fine not exceeding £10 for the first offence, and £50 for any subsequent offence. The General Nursing Council has now issued a notice inviting expressions of opinion from members of the nursing profession as to the design of outdoor and indoor uniforms, and especially as to whether the usual cloak and bonnet for outdoor wear will be preferred, or a coat and hat. Communications should be addressed to the Registrar, General Nursing Council for England and Wales, Room 104, third floor, Ministry of Health, Whitehall, S.W.1.

IT is announced that the University of Edinburgh *Roll of Honour, 1914–1919*, edited by Major J. E. Mackenzie, with 843 portraits, is in the press, and will shortly be published by Messrs. Oliver and Boyd.

THE Lord President of the Council has appointed an Interdepartmental Committee on Patents to consider the methods of dealing with inventions made by workers aided or maintained from public funds, whether such workers be engaged as research workers or in some other technical capacity. The Committee is to outline a scheme to give a fair reward to the inventor, and thus encourage further effort while protecting the national interest. Among the members of the Committee are Dr. H. H. Dale, F.R.S., head of the Department of Biochemistry and Pharmacology of the Medical Research Council. Communications with regard to the work of the Committee should be addressed to Mr. A. Abbott, 16 and 18, Old Queen Street, Westminster, S.W.1.

WHAT is stated to be the largest collection of British manufactures ever gathered together has been opened for a fortnight at the White City, London, in the shape of the British Industries Fair, arranged by the Department of Overseas Trade. Similar fairs have been opened in Birmingham and Glasgow. The fair brings within the space of forty acres or so a comprehensive exhibit of British industry and invention. The two sections which are most likely to interest any medical visitor are those devoted to chemical preparations and scientific instruments. In each of these a little market town of some thirty separate displays has been assembled. The exhibition of chemical preparations is of a very miscellaneous character, although it has some attractive features, but the other section will be the greater surprise to those who are aware how dependent we have been in the past upon foreign enterprise. It is difficult to think of anything in the way of scientific instruments and laboratory equipment which is not represented by British-made articles, and the exhibit of optical glass and of glassware generally is as good an illustration as anyone could desire of British genius and craftsmanship.

THE issue of *Nature* for February 17th was a special number containing a series of articles on the principle of relativity, by Einstein, Lorentz, Sir Oliver Lodge, and others, including one by E. Cunningham tracing the long history of the idea.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London*; telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London*; telephone, 2630, Gerrard.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone, 4361, Central).

QUERIES AND ANSWERS.

"M.B." asks for suggestions regarding the treatment of a patient, aged 60, who suffers from intense itching on both legs, below the knee, when warm in bed. The patient has a good appetite, no varicose veins, no sugar in the urine, and has a very slight patch of eczema—so slight as to be hardly noticeable—on one leg.

INCOME TAX.

"MEDOC," who has changed his address, asks (1) whether he should apply for a declaration form or wait until the authorities supply one on their own initiative; (2) can he deduct the cost of travelling from his residence to his consulting room? (3) how does the three years' average apply?

*** "Medoc" has presumably commenced an entirely new consulting practice. Legally he is under an obligation to render a statement of his liability whether it is specifically applied for or not; it is also preferable to deferring the matter for two or three years and then having to make good arrears of income tax. The cost of travelling would not be admissible unless the practice is carried on at the residence as well as at the consulting rooms. The army emoluments cannot be averaged with professional profits, and the liability will be determined for the first year on the earnings of that year, for the second year on the same amount, for the third year on the average of the first two years, and thereafter on the average of the three previous years' earnings. This is, of course, subject to any change in the law as to the average, and to the fact that as the law stands there is a proviso that during the first four years the "average" assessment can in each year be reduced to the amount of that year's profits.

LETTERS, NOTES, ETC.

CURE OF HAEMORRHOIDS WITHOUT OPERATION.

DR. A. WITHERS GREEN writes: All the suggestions made in the article at p. 265 of the JOURNAL of February 19th were dictated to me by my own common sense "years and years ago." I always use zinc oxide or zinc oxide with starch powder, with no atom of that common criminal boric acid. Ladies like a white powder better than a pink calamine. They also like calomel ointment in mild cases instead of that dirty ung. gallae c. opio. I would add: Grease the faeces internally by taking olive oil or liquid paraffin by the mouth; grease the anus before going to stool; use no paper, sponge with cold water, and assume the horizontal position at once with a large cushion under the buttocks, with shoulders not raised, but on the flat.

LUMBAR PUNCTURE IN ACUTE DISEASE.

MR. H. V. DREW, F.R.C.S. (Broadstairs), in the course of a letter, writes: I have in previous communications shown that disease manifestations are primarily due to the influence of toxins on the central nerve centres controlling all the vital processes, and I believe that reducing intraspinal pressure, and therefore absorption of toxins in acute diseases accompanied by grave symptoms, will save many lives and produce a revolution in medical practice. During the influenza-pneumonia epidemics of 1918 I appealed to the Army Medical Service to test my proposal, but it was not done. It follows from my formula above that we have an opportunity afforded for (1) analysing the toxins of disease as manifested in the cerebro-spinal fluid; (2) a simple method of reducing pressure injurious to the higher vital control centres, which in its turn increases absorption of the injurious toxins, causing headache, delirium, and all the other nervous symptoms common to acute diseases, which can only be explained by their influence on the central nervous system; and (3) a means of treating directly, not only symptoms, but diseases at the source, by relieving intraspinal pressure, and by direct injection of suitable remedies, medicinal or antitoxin. Since I first enunciated these views I know of such diverse cases as puerperal eclampsia, pneumonia, and status epilepticus, which recovered under the method suggested. I can recall many fatal cases of pneumonia and other acute diseases in which acute nervous symptoms were present, and to which no relief could be given; a simple tapping of the theca would have brought about immediate relief and ultimate recovery.

*** In regard to this subject attention may be drawn to paragraph 104 of the Epitome (January 22nd, 1921).

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 34, 35, 38, 39, 40, and 41 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 36 and 37.

THE appointment of a medical referee under the Workmen's Compensation Act, 1906, for the Sheriffdom of the Lothians and Peebles is vacant. Applications to the Private Secretary, Scottish Office, Whitehall, S.W.1, by March 16th.

THE following vacant appointments of certifying factory surgeons are announced: Westbury (Salop), Allendale (Northumberland), Colne (Lancaster), Eccles (Lancaster), Hammersmith and Paddington (London), Kirkby Lonsdale (Westmorland), Shap (Westmorland).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	9	0
Each additional line...	0	1	6
Whole single column (three columns to page)	7	10	0
Half single column	3	15	0
Half page	10	0	0
Whole page	20	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.